June 1931

Drug Markets

Established 1914

The Magazine of the Manufacturing Drug Trade

Editorials 535

Would It Be a Change ?—Dr. Durrett, We Are Surprised!—Watch Advertising Control—Multiple Seizures Halted—Merchandising Psyllium Seed—Counterfeit Detection—The Research Chemist—An Outstanding Paradox.

Feature Articles

Marmola Hits Advertising Control 539
Watching the A. P. M. A. 541
Progress in Proprietaries 543
Multiple Seizures Checked 545
Milk of Magnesia Agitation 547
French Sarriette, or Savory 549
Chlorophyll 551
What the Chemist Has Done for the Physician 555
Drug Trade of Uruguay and Paraguay 559
Close-Up of the Grasse Crisis 561
Protection Against Sunburn 563
The Manufacture of Tooth Paste 567
The Packaging Exposition 575
For Plant Managers 577
Menthol at Low Point 579
Mercury Price Cut Sharply 583
Mexican Vanilla in Dispute 585

New and Non-Official 538
Ten Years Ago 538
Industry's Books 550
News 593
Patents 609
Abstracts 613
Raw Material Prices 617
Drug Market Place 622
Buyer's Guide 524
Index to Advertisers 624

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Improving--We Hope

With this issue we have rearranged the editorial material with a view to making it more accessible to the reader. We have also introduced a news section in three column measure. With the concentration of the news in this one section, readers can learn of current happenings quickly.

During the coming few issues we hope to make DRUG MARKETS more attractive and more usable than it has ever been. During the transition we beg readers to be patient. Furthermore, if they have any criticisms or suggestions we ask that they shoot them along now.

VOL. XXVIII **DRUG MARKETS, INC.** NUMBER 6

PUBLISHERS

Publication Office, 28 Renne Ave., Pittsfield, Mass. Editorial and General Office, 101 W. 31st St., N.Y. City

Editor
THOMAS R. FARRELL

Business Manager
FRAZER V. SINCLAIR

PUBLISHED MONTHLY AT PITTSFIELD, MASS., SUBSCRIPTION PRICE, TWO DOLLARS A YEAR, IN ADVANCE, POSTAGE PAID TO ALL COUNTRIES, THREE WEEKS' NOTICE IS REQUIRED TO CHANGE SUBSCRIBER'S ADDRESSES, AND WHEN NOTIFYING KINDLY GIVE BOTH OLD AND NEW ADDRESSES; PRINTED BY THE SUN PRINTING COMPANY, PITTSFIELD, MASS. ENTERED AS SECOND CLASS MATTER, JANUARY 1, 1928 AT THE POST OFFICE AT PITTSFIELD, MASS., UNDER THE ACT OF MARCH 3, 1879.

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D&O
ESTABLISHED IN 1798

ESSENTIAL OILS
and Kindred Products

Among our extensive line of *essential oils* and *chemicals* for the pharmacist, we call attention to some of our specialties.

Anethol N F

Benzyl Benzoate F F C

Eucalyptol U S P

Eugenol U S P

Citral

Methyl Salicylate U S P

Safrol

Terebene U S P

Vanillin U S P

Oil Clove U S P
(now very low in price)

Oil Coriander U S P

Oil Lemon

Oil Orange

Oil Peppermint, Redistilled U S P

DODGE AND OLCOTT COMPANY
180 Varick Street New York City

"The integrity of the house is reflected in the quality of its products."
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Buyers' Guide

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A. K. Hamilton
Stanco Distributors, Inc.
U. S. Industrial Alcohol Co.

AROMATIC CHEMICALS

Dodge & Olcott Company
P. R. Dreyer Inc.
Fritzsche Brothers, Inc.
Givaudan-Delawanna, Inc.
Magnus, Mabee & Reynard, Inc.
Newport Chemical Works, Inc.
Schering Corporation
Ungerer & Co.
van Ameringen-Haebler, Inc.

BEESWAX

Theodor Leonhard Wax Co., Inc.
Will & Baumer Candle Co., Inc.

BIOLOGICAL CHEMICALS

Wilson Laboratories

BORAX

American Potash & Chemical Corp.
Pacific Coast Borax Co.

COD LIVER OIL

P. R. Dreyer Inc.
Geo. P. Huisking
Chas. L. Huisking & Co.
Norwegian Cod Liver Oil Association

CRUDE DRUGS

J. L. Hopkins & Co.
Geo. P. Huisking
S. B. Penick & Company

DENTIFRICE BASES

Iliff-Bruff Chemical Co.
Industrial Chemical Sales Co., Inc.
John & E. Sturge, Ltd.

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W. J. Bush & Co., Inc.
California Fruit Growers Exchange
Dodge & Olcott Company
P. R. Dreyer Inc.
Fritzsche Brothers, Inc.
Givaudan-Delawanna, Inc
Magnus, Mabee & Reynard, Inc.
Newport Chemical Works, Inc.
Plaimar, Ltd.
A. M. Todd Co.
Ungerer & Co.
van Ameringen-Haebler, Inc.

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California Fruit Growers Exchange
Dodge & Olcott Company
P. R. Dreyer Inc.
Fritzsche Brothers, Inc.
Magnus, Mabee & Reynard, Inc.
Ungerer & Co.
van Ameringen-Haebler, Inc.

GELATINES

Coignet Gelatines

GLYCERIN

Colgate-Palmolive-Peet Co.
Harshaw Chemical Co.
Will & Baumer Candle Co., Inc.

GUMS

Geo. P. Huisking

MEDICINAL CHEMICALS

Abbott Laboratories
Benzol Products Co.
Dow Chemical Co.
R. W. Greeff & Co.
Harshaw Chemical Co.
Heyden Chemical Corp.
Hoffmann-LaRoche, Inc.
Chas. L. Huisking & Co.
Mallinckrodt Chemical Works
Merck & Co., Inc.
Monsanto Chemical Works
Newport Chemical Works, Inc.
N. Y. Quinine & Chemical Works, Inc.
Chas. Pfizer & Co., Inc.
Schering Corporation
Swann Corporation

MINERAL OIL

M. W. Parsons Imports
Schliemann Companies, Inc.

SOAPS

J. L. Hopkins & Co.
S. B. Penick & Co.
John Powell & Co., Inc.

VANILLIN

Fritzsche Bros., Inc.
Givaudan-Delawanna Inc.
Magnus, Mabee & Reynard, Inc.
Monsanto Chemical Works

CONTAINERS

ADHESIVES

Nat'l. Adhesives Corp.

BOTTLES

Owens-Illinois Glass Co.

COLLAPSIBLE TUBES

Art Tube Co.
New England Collapsible Tube Co.
Sun Tube Corp.
White Metal Mfg. Co.
A. H. Wirz, Inc.

PACKING MATERIALS

Kimberly-Clark Corp.

VIALS

Kimble Glass Co.

CLOSURES

CORKS

Armstrong Cork Co.

INSIDE THREAD CAPS

Spring Stopper Co.

LINERS

Bond Mfg. Corp.

METAL CAPS

Aluminum Seal Co.
Anchor Cap & Closure Corp.
Crown Cork & Seal Co.
Ferd. Gutmann & Co.
Phoenix Hermetic Co.

PLASTIC CAPS

Bakelite Corp.

MACHINERY & EQUIPMENT

FILLING MACHINES

Alsop Engineering Co.
Arthur Colton Co.
The Karl Kiefer Machine Co.
F. J. Stokes Machine Co.
Stokes & Smith Co.

LABELING EQUIPMENT

Economic Machinery Co.
O & J Labeling Machine Co.

MIXING EQUIPMENT

Alsop Engineering Co.
Arthur Colton Co.
Mixing Equipment Co., Inc.
F. J. Stokes Machine Co.

PACKING & CARTONING

Package Machinery Co.
Stokes & Smith Co.

PHARMACEUTICAL MACHINERY

Arthur Colton Co.
F. J. Stokes Machine Co.

YOUR FLAVORING REQUIREMENTS

The use of superlatives in describing MM&R Flavors is unneccessary. Their piquant flavor and bouquet so true to the natural fruit is ample proof of their adaptability to your products. The consumers of MM&R Flavors now receive a two fold benefit by their use. Our Research Laboratories have improved the qualities of the leading items and a price reduction based on increased output and lower cost of raw materials is now in effect.

MM&R Flavors are manufactured for certain specified uses. Consult our Sales Service Department as to the possibility of improving your products by the use of MM&R Basic Flavoring Materials.

MM&R TERPENELESS OILS

Manufactured from highest grade selected natural oils. Recommended where solubility and uniformity are a factor.

MM&R SPECIAL FLOWER FLAVORS

Particularly adapted for use in confection novelties, cream centers, gums and hard candies.

MM&R IMITATION FLAVORS FOR FOOD PRODUCTS

Flavoring properties of the true fruit base are greatly intensified. Free from deleterious substances.

MM&R IMITATION FLAVORS SPECIAL CONCENTRATE TYPE

Especially prepared for the manufacture of high grade artificial Flavoring Extracts.

MM&R SPECIAL FLAVORS

Many types for many purposes. Unusual effects.

MAGNUS, MABEE & REYNARD INC

32 CLIFF STREET
NEW YORK, N. Y.

29 SO. CLINTON STREET
CHICAGO, ILLINOIS

MAKE YOUR *CLOSURE* PAY FOR ITSELF *in sales*

Cellulose Caps denote quality.

Armstrong's Artmold Caps help bottles sell themselves.

ADD the final touch of good taste and harmony that will take your package out of the commonplace. Make *Beauty* sell your product by using closures that blend perfectly with the color and shape of your bottle.

Your own design can be created in Armstrong's Artmold Caps, and Armstrong's Embossed Top Corks. Both made to order at surprisingly low cost. Standard ready-molded shapes, too. And for a colorful, finishing touch over closures of all types, Armstrong offers Du Pont's Cellulose Caps and Bands.

Practically every kind of closure that modern glass packing demands is included in the Armstrong Line. In addition to the closures already mentioned Armstrong offers corks of every description, all kinds of daubers and applicators, rubber stoppers, discs or liners of various types and crowns.

Our closure specialists, and our complete laboratory facilities for running tests, assure you of sound recommendations on problems of both sealing and design.

This closure service is free and without obligation. Send us sample bottles and full details of your problems. Or, if you prefer, write for samples and prices of the Armstrong Closure you require. Armstrong Cork Co., 913 Arch St., Lancaster, Pa.

Armstrong's Closures

CORKS OF ALL KINDS . . . ARTMOLD CAPS . . . EMBOSSED TOP CORKS . . . DAUBERS . . . CROWNS . . . CELLULOSE CAPS
CELLULOSE BEVERAGE BANDS . . . APPLICATORS OF ALL KINDS . . . RUBBER STOPPERS . . . CAP LINERS . . . BUNGS

Armstrong's Embossed Top Corks are tailor-made. They distinguish bottles from commonplace neighbors.

LET US COLLECT

YOUR **BAD** OUTSTANDING ACCOUNTS

WE ARE REPRESENTED THROUGHOUT THE WORLD

No Charge Unless Successful

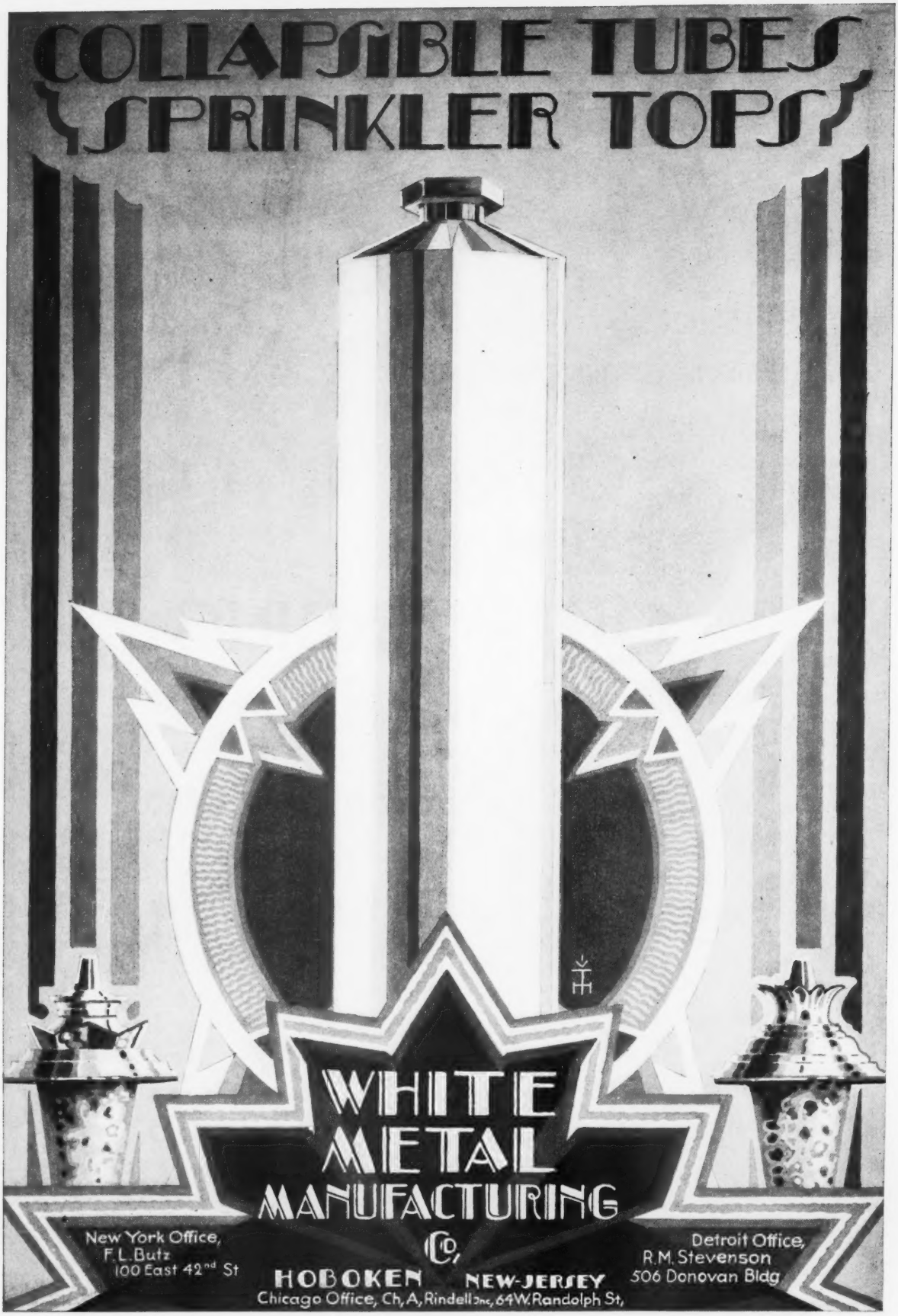
Call or Write

INDUSTRIAL CREDIT ASSOCIATION

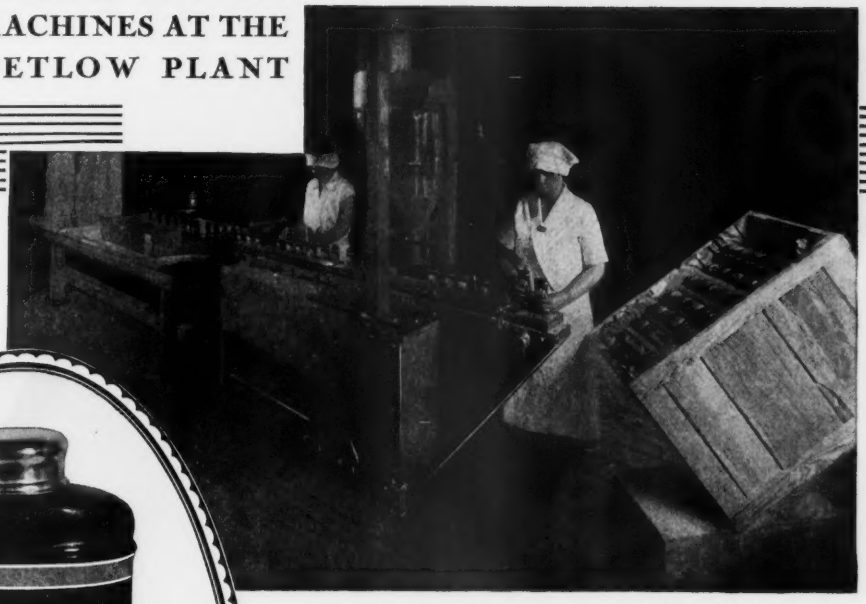
154 NASSAU STREET

NEW YORK CITY

BEekman 3-5756


COLLAPSIBLE TUBES
SPRINKLER TOPS
WHITE
METAL
MANUFACTURING
CO.
HOBOKEN NEW-JERSEY
New York Office,
F. L. Butz
100 East 42nd St
Detroit Office,
R. M. Stevenson
506 Donovan Bldg
Chicago Office, Ch, A, Rindell Inc, 64 W. Randolph St,

STOKES & SMITH POWDER FILLING MACHINES AT THE HENRY TETLOW PLANT



Many of the leading manufacturers of Talcum and Face Powder, Insecticides, and Spices are using these machines, and we will be glad to arrange a demonstration for you.

A CLEAN, ACCURATE FILLING JOB AT THE RATE OF 30 TO 35 CONTAINERS PER MINUTE

The S & S Automatic Single Unit Filling Machine is equally efficient for filling cans or canisters from half an ounce to a pound — and handles a hundred and one different powdered products with the same dependable ease, speed and accuracy.

Tended by one operator, the machine fills — and, where required, caps—30 to 35 containers per minute. Its operation is entirely automatic —even to the automatic trip which prevents spills should a gap occur in the container line on the conveyor.

Sturdy construction—precision in manufacture —and absolute insistence upon quality in every detail, have combined to win for these S & S machines an unrivalled reputation for complete dependability.

STOKES & SMITH COMPANY

Packaging Machinery

4912 SUMMERDALE AVE., PHILA., U. S. A.

British Office: 23, Goswell Rd., London, E. C. 1

Buyers, *more than any other executives---*

Write us enthusiastic letters about this book

Nothing so comprehensive, so complete, has ever been compiled for the men responsible for purchasing in factories making pharmaceuticals, proprietary medicines, toilet preparations, cosmetics, flavoring extracts.

Drug Markets CATALOG and DIRECTORY is really four necessary business reference books in one. A great deal of the data has never before been compiled and published.

It is a complete, carefully edited directory, in that the manufacturers, importers, dealers for 2,000 chemicals, aromatics, essential oils, flavors, botanical drugs, spices, and for machinery, containers, etc. are listed.

Each of these products are completely described, with technical and commercial data which time and again will be a real help and time saver to a buyer.

Statistical material, such as the value and amount of chemicals imported, by years for preceding ten years; price range for over 2,000 chemicals and raw materials, including 1914 prices; 1927 average; high and low for 1928, 1929, 1930 and the four quarters of 1930.

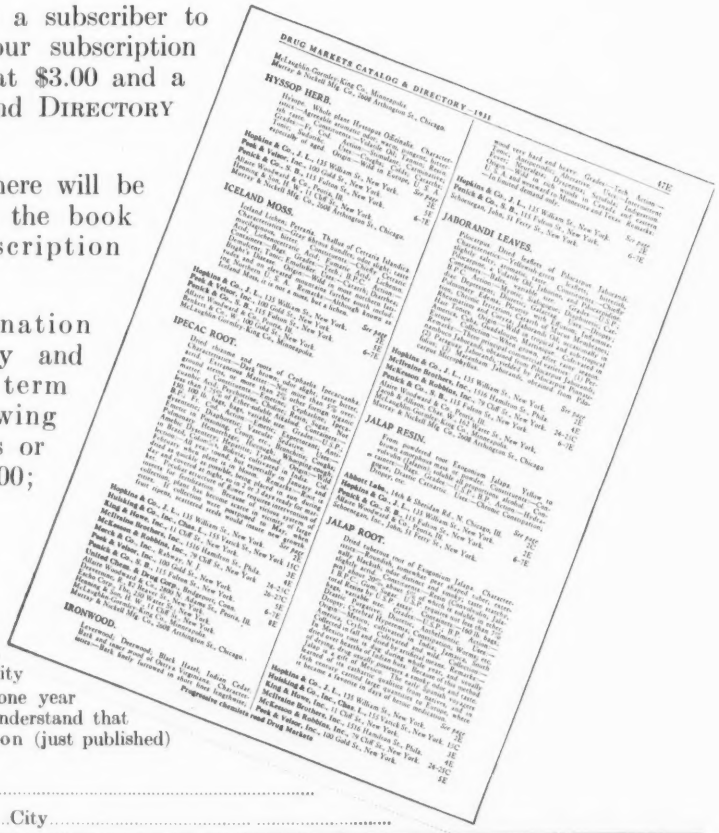
The condensed catalogs of 103 manufacturers, dealers, importers who are recognized sources of supply to manufacturers of pharmaceuticals, proprietary medicines, toilet preparations, cosmetics, flavoring extracts.

Attractively bound, beautifully printed on fine paper, the same page size as DRUG MARKETS—448 pages of useful information.

You can have this book free, as a subscriber to DRUG MARKETS. Just send in your subscription to DRUG MARKETS for one year at $3.00 and a copy of Drug Markets CATALOG and DIRECTORY will be mailed to you at once.

If for any reason (and we know there will be none) you are dissatisfied, return the book within ten days and your subscription money will be refunded.

If you want to make a combination subscription for your laboratory and production department or a long term subscription, we make the following special offer:—two subscriptions or two years $4.50; three for $6.00; four for $7.00.


DRUG MARKETS CATALOG & DIRECTORY—1931

HYSSOP. HERB.

ICELAND MOSS.

IPECAC ROOT.

IRONWOOD.

JABORANDI LEAVES.

JALAP RESIN.

JALAP ROOT.

Drug Markets, Inc., 101 West 31st St., New York City

Gentlemen: Please enter my subscription for one year of DRUG MARKETS (twelve issues) at $3.00. I understand that this entitles me to a free copy of the 1931 edition (just published) of Drug Markets CATALOG and DIRECTORY.

Name .....

Address ..... City .....

Chemists, *especially---*

Write that this book is invaluable in the laboratory

Chemists engaged in pure research, in testing and specifying for purchase, in direct control of production, write that Drug Markets CATALOG and DIRECTORY is a uniquely useful and valuable data book.

Nothing more comprehensive for chemists working in pharmaceuticals, proprietary medicines, toilet preparations, cosmetics, flavoring extracts, has ever been published.

Every chemical, essential oil, aromatic, raw material, botanical drug, spice used in these industries is listed—more than 2,000 of them.

For each one of these, descriptive data such as chemical formula, derivatives, characteristics, origin, uses, detailed technical and commercial information is given. Two hundred and eight pages of solid reference material, much of which is not available in any other reference book.

A directory of principal suppliers accompanies each listing and description. Other useful reference material is: a very comprehensive glossary of chemical synonyms; imports figures for ten years and back prices for 2,000 chemicals; condensed catalogs of principal suppliers, full of specific data on chemicals, etc.

DRUG MARKETS CATALOG & DIRECTORY—1931

METHYL SALICYLATE.

MUSK.

MUSK AMBRETTE.

MIRBANE OIL.

MUSK KETONE.

MOUNTAIN LAUREL OIL.

You will find this an attractively bound book, beautifully printed on the same paper used for DRUG MARKETS, and the same size page. Drug Markets CATALOG and DIRECTORY is mailed *free* to subscribers to DRUG MARKETS. If you have not received a personal copy, which you will surely want, send your subscription now to DRUG MARKETS ($3.00 for one year) and a copy of the Catalog will be mailed to you free at once.

If for any reason you are dissatisfied with the book (we're betting you won't give it up to anyone) return it in ten days and your money will be immediately refunded.

Drug Markets, Inc., 101 West 31st St., New York City

Gentlemen: Please enter my subscription to DRUG MARKETS for one year at $3.00. I understand that this entitles me to a free copy of the 1931 edition (just published) of Drug Markets CATALOG and DIRECTORY.

Name.....

Address.....City.....

When she says, "I'll take this one"

is yours the favored package?

How often one sees excellent preparations, in plain packages, pushed aside in favor of others in more enticing containers. In the buying of creams and beauty preparations, for example, women are almost certain to choose those offered in attractive jars or bottles with lustrous, colorful, modern closures.

Jar covers of Bakelite Molded, graceful and pleasing in design, and distinctive in color, modernize a package and are a definite aid to sales. Exclusive and patentable designs may be easily reproduced in Bakelite Molded, providing protection and identification for a whole line of products.

In addition to making your product easier to sell, Bakelite Molded closures also make it easier to use. The accurately formed threads in these tops permit easy opening and closing, and guarantee a tight, lasting seal. Since the material itself is unaffected by chemicals, delicate preparations stay free from stain and contamination by corrosion. Without incurring any obligation on your part, we invite you to enlist our aid in adapting Bakelite Molded closures to any of your containers

BAKELITE CORPORATION
247 Park Avenue, New York, N.Y. Chicago Office: 635 W. 22nd Street
BAKELITE CORP. OF CANADA, LTD., 163 Dufferin St., Toronto, Ont.

BAKELITE

REGISTERED U. S. PAT. OFF.

The registered trade marks shown above distinguish materials manufactured by Bakelite Corporation. Under the capital "B" is the numerical sign for infinity, or unlimited quantity. It symbolizes the infinite number of present and future uses of Bakelite Corporation's products.

THE MATERIAL OF A THOUSAND USES

The NEW CROWN LUG CAP

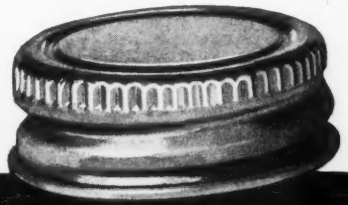
IT is winning immediate acceptance among manufacturers of glass packed products because it sets a standard of sealing efficiency never before attained in this type of closure.

NEW BEAUTY OF DECORATION

Of almost equal importance is the rich beauty of decoration made possible by fine lithography and new manufacturing methods. Trade-marks, designs and colors to harmonize with the most distinctive packages are reproduced with faithful accuracy and pleasing finish that adds to the attractiveness of your package.

Write us for samples of Crown Lug Caps. Note the rich beauty of decoration. Test their superior sealing efficiency in your own plant. Then, and only then, can you appreciate the advantages they offer.

Our splendidly equipped Art Department will cooperate with you in creating designs to give your product greatest sales appeal. We invite you to make full use of this service.



CROWN SCREW CAPS

An improved type of screw cap that will not ride, lock or jam. Its new and exclusive features reduce friction and greatly increase sealing pressure. Write for samples and full information.

Look to "Sealing Headquarters" to provide you with *the right closure for your product.* Our Research Laboratories are unsurpassed in completeness of equipment and the service they can render. These facilities are at your disposal, without obligation, to aid you in determining the method of packaging that best meets your requirements.

Container Cap and Service Division

CROWN CORK & SEAL CO. BALTIMORE, MD.

▼ ▼ *World's Largest Makers of Bottle Caps and Closures for Glass Containers* ▼ ▼

The three pieces
Assembled as shown
Seal is seated on the bottle
Sides gently rolled into bottle threads
Perfect closure and reclosure is assured

Under this tailored-to-fit cap even the *last shot* is full strength

That "last shot" of your lotion or antiseptic is a crucial amount. When it *has* full laboratory strength, it is customary to say "That product was fine. I'll get another bottle today." Tailored-to-fit each bottle, Alseco Rolled-On Seals keep the contents fit all the way.

First the seal is seated, then the threads are rolled into the cap. Because the seal is applied unthreaded, the exactly correct amount of vertical, stationary top pressure is applied with minimum bottle breakage. Then, with the sealing medium held under this constant pressure, the threads are rolled into the cap, tailored to fit the threads on the bottle. Thus the proper sealing pressure is maintained until the cap is removed by the ultimate consumer. This ideal sealing operation is accomplished at almost any desired speed.

These caps provide an initial hermetic seal. Alseco Rolled-On Seals unscrew easily, go back on easily time after time with just an easy wrist-twist. They cannot rust or deposit mineral salts.

You may have Alseco Rolled-On Seals in any solid color, lacquered, enameled or lithographed. They come in a variety of sizes. We shall be glad to help you with your particular capping and sealing problems. ALUMINUM SEAL COMPANY; NEW KENSINGTON, PA.

ALSECO ROLLED-ON SEALS
Made of Alcoa Aluminum

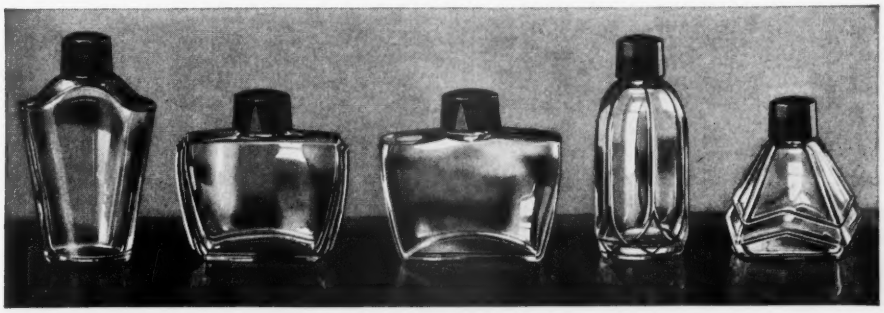
A new line of ultra-smart containers

If your product requires an especially smart container in relatively small quantities . . .

If you are looking for containers with that "hand-blown" air, but of surprisingly moderate cost . . .

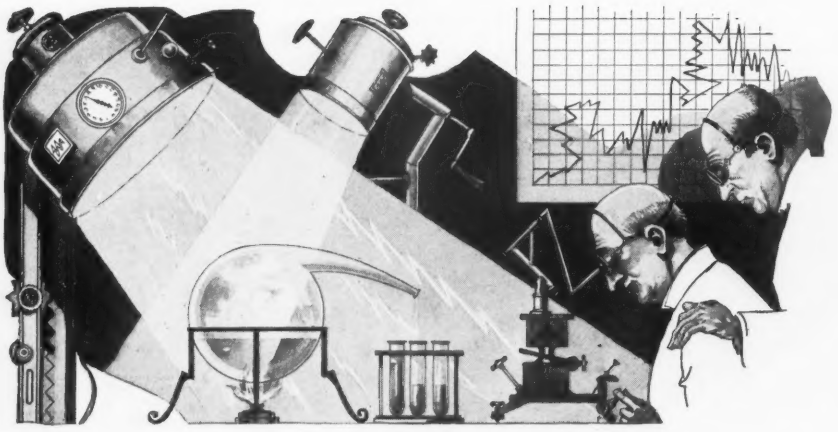
Then the new Owens-Illinois line is exactly suited to your needs. Months have been spent in its development to produce the ultra-smart appearance typical of modern merchandise. With their interesting designs, lightness of weight and clarity of outline, these containers combine all the essential features of today's trends in packaging.

All of the designs illustrated are available—in a wide variety of sizes. Owens-Illinois Glass Company, Toledo, Ohio.



OWENS-ILLINOIS

BOTTLES AND GLASS CONTAINERS



ILLUSTRATIONS of white-coated scientific-appearing gentlemen have been creeping into the newspaper and magazine advertisements with increasing regularity. Review any publication.

These bespectacled and vandyked figures may be seen doing everything from taking the pulse of a nugget of idolized steel to calibrating the infratoxicity of a test tube of mauve perambulator grease.

The copy which accompanies these hospital-like illustrations is redolent with quasi-scientific terms and an air of unquestioned authority permeates the entire effusion.

The effort, when psycho-analyzed (pardon if I, too, sound scientific) seems to be that of giving a new kind of "kick" to the most commonplace of articles. In a surprising number of instances it succeeds . . . that is, if sales may be used as a yard-stick. But, according to a very good authority, most of the bespectacled and vandyked wizards have never worked at a more scientific job than that of professional model in an art studio.

Don't misunderstand me. I am not trying to discredit research. It has a very important place in industry. Every manufacturer must conduct a certain amount of investigation, scientific or otherwise, or slip into the discard. But take it from one who is on the inside, "Research is not always what it's cracked up to be." There are entirely too many manufacturers who are merely going through the motions. Some of them are plainly trying to fool the public, but as many are merely fooling themselves.

Perhaps after this make-believe scientific world has been submitted to a little "researching" itself, we'll all settle down to doing our daily job the best way we know how today. We'll invest a definite amount of time and money into trying to do it better. We'll painstakingly investigate every new method or process. That's understood. But we'll refuse to be stampeded into adopting something new or "revolutionary in scope" simply because it bears the stamp of approval of a white-coated, vandyked gentleman . . . and we'll hesitate to use any such figure in our own advertising.

Dart Smith

PHOENIX-HERMETIC COMPANY
Metal Caps for Glass Packages
CHICAGO NEW YORK

Offices: New York, Philadelphia, Boston, Chicago, San Francisco, Los Angeles, Cleveland, Cincinnati, St. Louis
Plants: 2444 W. 16th St., Chicago; 14th Ave. and 38th St., Brooklyn

PHOENIX *Metal Caps*

YOU'D have difficulty pointing out a chemist (or laboratory man) in the plants of the PHOENIX-HERMETIC COMPANY.

He wears no white coat. Nor does he affect the conventional scientific manner.

You might easily mistake him for a clerk. Or a factory worker, salesman or office executive.

He goes about his work quietly. He has but one purpose in mind: "Each day to make our product a little better."

With him are aligned mechanics, lacquer and varnish men, metal decorators, rubber workers . . . yes, and even salesmen. All contribute their bit of suggestion or advice.

It is true that he has a definite advantage because practically all of the materials — lacquers, varnishes, decorating coatings and inks, rubber compositions, liners, etc.—which enter into the manufacture of PHOENIX *Metal Caps* are made in our own plants.

But he carefully checks all raw materials. And no formula is adopted as standard, or changed, until it has been thoroughly tried out under actual manufacturing conditions.

We seldom talk about these men who are responsible, directly or indirectly, for the good appearance or faithful performance of our product. We would rather let our product speak for itself.

After all that is what you are most concerned in. Not unbridled claims. Not rash promises. But actual appearance and performance under every day working conditions. We rest our case.

CT Screw Cap

THE SELLING POWER OF COLOR AND DESIGN

We have made notable contributions to the art of tube decoration, and can approach your problem with the advantage that comes from long experience, intelligent understanding and demonstrated ability to produce the outstanding.

Constructive suggestions are yours for the asking. Perhaps you have a problem right now on which we can help.

NEW ENGLAND COLLAPSIBLE TUBE COMPANY

17-35 Waller St., New London, Conn.
3132-34 S. Canal St., Chicago, Ill.
New York Office: 370 Lexington Ave., (Cor. 41st St.)

NEW ENGLAND COLLAPSIBLE TUBES

MERCURY

Stood Between Tannery Workers and Deadly Disease

WHEN the foot and mouth disease swept the country some years ago, killing cattle by the thousands and threatening human life, the tannery worker's life was imperiled. No quarantine however rigid could quite exclude infected hides. It was then that the chemist once again proved his value. In Mercury he found protection to workers without injury to hides. Thus still another industry was added to the growing multitude of users of mercury compounds.

For forty-three years the Mallinckrodt Chemical Works have given special attention to the development of a line of mercurials—about fifty-eight in all—unsurpassed in purity, uniformity, and efficiency. There are yet many industries that may find use for such compounds. Perhaps in your business one or more may prove valuable. If our long experience may be helpful to you, feel free to consult us.—*Mallinckrodt Chemical Works, St. Louis, Missouri.*

58 ***Mercurials prepared by Mallinckrodt, include:***

Mercury Ammoniated
Corrosive Sublimate
Calomel (Very Fine)
Mercury Oxide (Red and Yellow)

Mallinckrodt

FINE CHEMICALS

St. Louis
Philadelphia

New York
Montreal

Drug Markets

Vol. XXVIII JUNE 1931 No. 6

Would It Be a Change?

THERE are advantages to the establishment by legislation of a commission appointed by the President for the determination of drug standards. If such a commission were established with the proper representation of the manufacturers on the commission, it would end once and for all the unofficial dictatorship of the A. M. A.—F. & D. A. alliance now wielded under the threat of a government prepared Pharmacopoeia if the alliance does not get its way. Some of those most interested in the drug manufacturing industry and the Pharmacopoeia are free to admit that the Pharmacopoeia is definitely headed for some sort of government regulation.

THAT there are also definite disadvantages to such a proposal is readily understood when it is realized that the balance of power of such a commission might easily be held by the A. M. A. and the Government. If such were the case, the manufacturing industry would be no better off than it is today. Also the recent protest of the meat packing interests against the statement made by a Government official advising against eating much meat during the Summer months immediately raises the question as to whether such a commission could be guided by pure scientific facts.

WHILE there are those on the Revision Committee of U. S. P. XI who are interested only in producing the finest book of standards ever published, there are also on the committee those who are carefully guarding the discretionary privilege of the Government to disregard these standards when it so desires. Much excellent work is being done in preparing the standards for U. S. P. XI, but at the same time much work is also being done to make some of these standards meaningless under certain conditions.

WE SEE little chance of the change giving manufacturing pharmacy any greater voice in determining U.S.P. standards. We can see definitely how the situation would be without real change in its execution even though legislation were passed to make things appear different than they now are. We still believe that proper use of interim revision by the Revision Committee and the demand that the Food and Drug Administration be forced to adhere strictly to the Pharmacopoeia as it is written would produce the best results for the drug manufacturing industry.

Merchandising Psyllium Seed Developments in the promotion of psyllium and other plantago seeds for laxative purposes are swiftly multiplying. Various types of these seeds, special blends, unique packings, are being used by sellers of the seed to give them competitive advantages over others in the retail field. The retail druggists of the country are now carrying many different brands, several of which are national in the scope of their markets.

But, for the most part this development has taken place almost entirely on the part of the packers of the seed themselves with very little aid from the supply houses. This is largely due to the fact that the early merchandisers of the seed in this country imported their own seed and cleaned and blended it themselves. The fact that direct importers of the seed, selling the seed for shipment, offered low prices to many packers not necessarily in a position adequately to clean or in fact to test the seed is also largely responsible for this condition.

There is still much to be done by the importers of these seeds. A proper education of the packers to the real intrinsic worth of the various seeds, and the proper blending of the various seeds to produce maximum laxative effect at the minimum cost should bring real returns to the one who undertakes such a program.

• • •

Counterfeit Detection Recently we heard of an attempt to counterfeit a popular inhalent. The knowledge that the job was to be undertaken was in the hands of certain members of the drug manufacturing industry several months before a single bottle of the product had been actually produced by the counterfeiter. The manufacturer of the product to be counterfeited was notified, and although there was to be had no definite proof but only confidence in the manufacturer who informed him, immediate steps were taken to handle the situation. The interested manufacturer was patient, waited until the material was actually produced and ready to be shipped. Then the plant was raided and the material destroyed.

Counterfeiters will not go far in the drug trade if they meet with such disaster. Short jail terms might mean little to them if the profits are large, and from the manufacturer's viewpoint, the jail sentence serves a questionable purpose when the counterfeit goods have already displaced the original goods in sale to the public. Certainly the method of seizing the goods after large amounts of money have been spent upon them is far better than waiting to catch the culprits after the damage has been done, if in fact the job is ever discovered at that time.

It is with this type of detection of counterfeiting that our plan—shortly to be announced in co-operation with several drug manufacturers—is concerned. In the meantime we wish to draw attention to still another type of package protection announced in the Plant Managers Forum in this issue.

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The Research Chemist Very few medicines with which we are familiar today were discovered by members of the medical profession. Rather has the large bulk of the work of improving methods of treatments come about through the work of the research chemist who has either synthesized the compounds appearing in natural products, or has synthesized new products which have proven more efficacious than those products with which the professions were formerly acquainted. Further than this the research chemist has in many cases determined the alkaloid or other chemical compound responsible for the efficacy many vegetable drugs, and has succeeded in extracting this chemical from the drug itself.

But much remains to be done. Many of our products are still prepared from natural products without definite knowledge of just what chemical compounds or combinations of these compounds produce the desired result. In the standardization of such products we must resort to biologic assay which is slightly better than nothing. Standardization by means of biologic assay does produce uniformity in something or other, but for the most part no one knows just what ingredients of the preparations are standardized by these methods and whether in fact that main cause of the action of the drug is uniform or not.

Dr. McLaughlin, of the U. S. Public Health Service, stated at French Lick that the greatest advances in the future of medicine would come from the work of the research chemist. Not being unmindful of the great work done in biologics and of the work that lies ahead in that particular field. Dr. McLaughlin forecast that the solution of vitamin problems and greater knowledge of the glands of the body and their secretaions were the subjects in which the research chemist would interest himself to the end of the most far-reaching advancement in medicinal science.

Dr. Durrett We Are Surprised! We were more than surprised to see Dr. Durrett, Chief of Drug Control, deliberately refuse to treat a question asked him at the meeting of the Proprietary Association as that question deserved to be treated. Harry B. Thompson, counsel of the association, asked Dr. Durrett about the opinion of the Government upon labeling products such as Lee's Save the Baby and Chichester's Pills for diseases where the products would not always effect a cure although the same preparations are often used by physicians for the treatment of these diseases.

Dr. Durrett answered the question by stating that the Department did not think that it was proper to label a laxative for tuberculosis even though a laxative might be necessary in treatment of tuberculosis. Upon being told that the statements made did not answer the question and upon being asked why he insisted upon talking about tuberculosis when this disease had not been mentioned, Dr. Durrett expressed utter contempt for his questioner and repeated to the crowded meeting what he had previously said regarding tuberculosis and a laxative.

If the action of Dr. Durrett proved anything it proved the Department's utter disregard of the intelligence of anyone who is associated with the drug manufacturing industry. It proved in addition the Department's narrow-minded attitude and unwillingness to bend to the extent of giving a satisfactory answer. But more than anything else did it demonstrate beyond a shadow of doubt that the Department has no defense for the ridiculous manner in which it has gone clearly beyond the letter and spirit of the law in denying the public simple knowledge regarding those medicines that mitigate diseases and that aid nature in effecting a cure for diseases.

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Watch Advertising Control While the decision of the U. S. Supreme Court in the Raladam case properly rebukes the Federal Trade Commission for sticking its nose into anyone's business under the guise of protecting the public against fraud, the necessity of some control over advertising must not be lost sight of by the drug and toilet goods manufacturing industries. Although much of the work done by the Federal Trade Commission in advertising censorship was of questionable value to the public, it would not do to leave the door wide open and allow all sorts of fraudulent remedies to be advertised to the public.

If this decision means that the Federal Trade Commission is to be practically eliminated from the fields of advertising control except in such cases as damage to competitors is strongly proven, it is up to the manufacturers in the various industries involved to be prepared for such legislation as might arise when the public demand for censorship asserts itself. There is no question that advertising will be abused, and there is no question that legislation will be the answer to that abuse.

It is our opinion that before long manufacturers of drug products and toilet preparations will be put through the paces on advertising copy in much the same manner as they are now being treated on label statements. To design such legislation so as to prevent censorship of advertising copy which might result in seizures of the product, long expensive litigation, adherence to the views of one or two narrow-minded enforcement officials who will try to stretch the letter and spirit of the law to the limit, is the task that these manufacturers now have before them.

• • •

Multiple Seizures Halted The Food and Drug Administration has been definitely halted in its bureaucratic enforcement of the Food and Drug Act. The decision against the deprivation of a man's business with due process of law by the use of multiple seizures takes away the Administration's famous threat against those who do not agree fully that the Administration is the last word on just how labels should read. Here is just another instance of a drug manufacturer—whether he is right or wrong—not being allowed to conduct a business that does much good and no harm during such time as his case is coming to trial.

There are those who believe—and the Administration will encourage such believers—that to take away from the Administration the right of multiple seizures in such cases would cripple the Administration in enforcement of the Food and Drug Act. Everyone admits that multiple seizures should be used in cases of either foods or drugs where real danger to the public health is attendent upon their consumption. But there are also those who can see the difference between cases involving poisonous foods and those involving questionable statements upon labels as to the therapeutic value of a preparation.

An Outstanding Paradox

The most outstanding fault of our present economic system is that times of plenty have come to mean times of distress. What we have come to term as prosperous times, are really times of shortages in natural products and other necessities. We have at the present time in this country enormous productive capacity. We have also exceedingly large natural crops. In addition we have the largest gold reserve of any country in the world. Yet we have hard times.

If a large part of our wheat or other food products were destroyed, we would have high prices for these commodities with a return of prosperity to a large part of our population. If a large number of our factories were destroyed, other manufacturers in the industries affected would become prosperous. If a large city such as Chicago should be destroyed for any reason, the rest of the country would busy themselves profitably rebuilding Chicago.

Conditions in the long run will not right themselves until this paradoxial condition is corrected. Not until large crops and cheaper production costs mean greater prosperity for all the population, will we be on a basis that will really permit us to continually improve our condition through intelligent effort.

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Ten Years Ago

From Our Pages, June, 1921

The Pharmaceutical Conference of New York City is sending out this week its official announcement of the final settlement arrived at with the Department of Health concerning the new regulations for the registration of all proprietary medicines sold in this city.

The United States Industrial Alcohol Co. announces that H. I. Peffer has been appointed general manager in charge of its western division, and Glen S. Kaskell, general western sales manager, with headquarters at the Chicago offices of the company.

The Hillier-Anderson Co., resulting from the merger of the R. Hillier's Son Co., and P. E. Anderson Co., two of the leading crude drug houses in New York, has been formed, and the following officers have been chosen: Isaac V. S. Hillier, president; P. E. Anderson, vice president; Charles W. Anderson, Jr., treasurer; Richard V. S. Hillier, secretary.

A three story structure, 100 by 200 ft. has just been completed by A. S. Hinds, manufacturers of cold creams, soaps, etc., in Portland, Me. Labor saving machinery has been introduced in every department.

• • • New and Non-Official • • •

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What—No Packaging Expert!

The first Packaging Exposition left us breathless with enthusiasm. The clinics especially were more fun than attending a Night Court in session, with a couple of auctions thrown in. Everybody had ideas and nobody hesitated to shout them out. When it comes to looks, your idea is as good as the next fellow's—even if he is an expert. We yield the palm to nobody in our appreciation of a good looking package. In fact we set a record for two weeks continuous rave over the new Bon Ami package. But we do think it can be overdone and that there is a serious danger of overdoing this "package consciousness".

The most apt commentary on this whole subject appeared in the "New Yorker"—by a strange coincidence in the issue following the exposition.

This was a cartoon showing the nurse presenting the new baby on a pillow for the inspection of the father. His only remark was, "My word. No cellophane!"

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Our Favorite Son

Many stories have come back from the numerous conventions which have been held during the past month, but perhaps the best is the one of the president of one of the associations who showed up at the annual meeting without his presidential address. Maybe that's why he is in such demand as an after-dinner speaker.

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Do You Know That

The world's tallest pilasters—those on the Empire State building—and hypodermic needles are made of the same metal.

The late Nicholas Longworth, distinguished Speaker of the House, appeared in testimonial advertising for Sharp & Dohme's, Hexyresorcinol Solution S.T. 37, saying, "This Hexyresorcinol Solution S.T. 37 is one of the truly great discoveries of science."

Listerine is planning a series following "Breath Takes a Holiday", previously referred to in the column. The second is "Till Breath Do Us Part". Suggestions are now in order. Some already are, "As Certain as Breath and Laxatives", "Give Me Listerine or Give Me Breath", "Oh, Breath, Where is Thy Stink".

• • •

That Depression Again

Our office statistician has plotted a curve which shows that discarded cigarette butts are now averaging a quarter of an inch longer than they did in December. This proves, to him, at least, that business sentiment is improving.

• • •

Congratulations

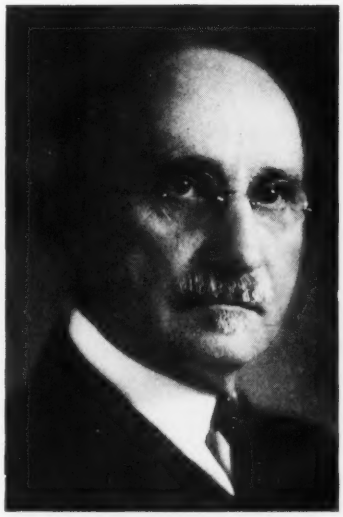
One of the most attractive and best edited house organs which comes across our desk is, "Tile and Till", published by Eli Lilly & Co. The current issue commemorates the fifty-fifth anniversary of this company.

• • •

How to Sell at a Loss and Profit

We thought you might like to know about the fellow who sold his competitor's stock short and then entered upon a destructive price war with him.

Marmola Hits Advertising Control



William E. Humphrey (right) has been called the "father of advertising control," and Edgar A. McCulloch, another Federal Trade Commissioner, is the guiding force in censoring drug and toilet goods advertisements.

THE U. S. Supreme Court decision in the Marmola case has been the subject of a great deal of discussion. The views expressed range all the way from those of Federal Trade Commissioner William E. Humphrey that the decision really strengthens the hands of the Commission, to those of the opposition, which holds that the Commission's campaign against alleged false advertising has been given a severe setback. The belief is expressed in some quarters, official and unofficial, that the decision tends to promote the cause of general legislation to deal with advertising control. Otherwise, the question is asked, how can false statements in general advertising about medicines and other products be stopped. In between these views at both ends of the scale, some of those in trade as well as in official circles express the belief that the decision was not so very important, after all, as it may have seemed at first.

Enactment of some such legislation as was proposed in the last congress in the bills for Control of general advertising of drugs that were introduced by Senators Smoot and Copeland is believed by others in trade circles to have been brought nearer. Some Department officials also express this idea, purely unofficially. At the same time they say that the trades and industries most concerned about possible advertising control legislation would rather have the Federal Trade Commission continue its control work than to have the job assigned to a body with less flexible procedure and standards, such as the Food and Drug Administration.

It is claimed to be easier and more satisfactory to transact business of the type such as pertains to ad control with an administrative body similar to the Commission administering a non-penal law, than it would be with the Food and Drug Administration enforcing a criminal statute like the food and drugs

act, in rigid manner. The senatorial ad control bills above mentioned proposed to amend the food and drugs act to attain the end desired.

Food and Drug officials are not inclined to view the Marmola decision with alarm. They say it is "not so bad" when read and digested. They say they are glad of this because during the past few years there has been rather close cooperation between the Food and Drug Administration and the Federal Trade Commission on matters pertaining to labelling and advertising of drugs, foods, cosmetics, etc. This contact has been very satisfactory to the Administration, it is stated. It is expected to continue. Under it alleged false general advertising of foods and drugs has been referred by the Administration to the Commission. And alleged false labeling has been referred by the Commission to the Administration.

A Unanimous Decision

The Supreme Court's decision was unanimous. The opinion was handed down by Justice Sutherland, in the case entitled Federal Trade Commission versus Raladam Co., which is the seller and advertiser of Marmola Prescription Tablets. The Federal Trade Commission held that these tablets contained an alleged dangerous drug, thyroid, and ordered the Raladam Co. to cease and desist from advertising its product as a safe anti-fat or obesity cure, unless taken under the advice of a physician. The company appealed to the federal courts. The U. S. Circuit Court of Appeals for the Sixth Circuit decided against the Commission, on the ground, among others, that it had no authority to rule on the question of the safety of a drug. That was a medical question, a matter of opinion, the court said.

The Supreme Court, however, disagrees with the court of appeals on this point. Justice Sutherland said in his opinion: "Findings, supported by evidence, warrant the conclusion that the preparation is one which can not be used generally with safety to physical health except under medical direction and advice. If the necessity of protecting the public against dangerously misleading advertisements of a remedy sold in interstate commerce were all that is necessary to give the Commission jurisdiction, the order could not be successfully assailed."

But the Supreme Court said that that was not all that was necessary. There must be shown to be competition involved in the advertising and sale of Marmola, the court held. The opinion said that the court assumed the existence of unfair trade methods that were involved in the case; also that a proceeding by the Commission to prevent the use of the methods was in the interest of the public. But the case was thrown out, Trade Commission officials say, on the sole ground that the Commission did not have jurisdiction to issue its order against Marmola because it did not show that Marmola advertising injured competition.

Commission officials say they have evidence to show competition. Just before the Supreme Court recessed for the summer the Commission asked and obtained leave to file within thirty days a motion to modify the court's judgment in the Marmola case. In order to grant this leave, the court extended its term until July, for this one purpose only. Without such extension, the court would have held that its power to act on this particular case ended with the beginning of the recess.

The Commission's motion for modification of the court's judgment, it is understood, will seek permission to have final disposition of the case suspended to give the Commission opportunity to present evidence, that there was competition, s well as unfair methods and the public interest which the Supreme Court concedes, involved in the Marmola case. If the motion of the Commission is granted by the court, then the case will go back to the lower court with instructions to that effect, and the Commission will, in a rehearing, seek to make a showing on the question of competition. So that the case is not yet finally closed. The motion for modification will not be considered by the Supreme Court before October, when it begins a new term.

Humphrey to Continue

Meanwhile discussion and analysis proceed apace. Commissioner Humphrey, a leader in the Federal Trade Commission's campaign to stop alleged false advertising, declares that that campaign will continue and that the Commission will make every effort to secure a reversal of the circuit court of appeals' decision in the Monuola case and to have its cease and desist order against the Raladam Company upheld by the Supreme Court. In Mr. Humphrey's opinion, that court upheld the right of the Commission to proceed against patent medicine vendors in the interest of the public health.

Commission officials assert that that was the principal, if not sole, question at issue in the case, from a medical and a drug standpoint. If the Supreme Court should finally reject the Commission's plea for modification of the court's judgment so as to permit a showing on the question of competition, it is declared at Commission headquarters that there would be nothing to prevent the Commission immediately instituting a new complaint against Raladam alleging unfair methods of competition in the matter of alleged false advertising of Marmola, to the detriment of its competitors. And the intimation is very plain that the Commission would do that very thing forthwith. And Commission people assert that in such new proceeding they would be fortified by the Supreme Court decision.

On the question of competition, there have been suggestions that there could not be unfair methods of competition under the jurisdiction of the Federal Trade Commission, if all anti-fat manufacturers made the same sort of misrepresentations. The Supreme

(Continued on page 554)

Watching the A. P. M. A.

John G. Searle, G. D. Searle & Company, for many years secretary of the association, becomes its president

STRIKING out along progressive lines, and taking full, cognizance of the changes which are altering the course of the conduct of the business of its members, the American Pharmaceutical Manufacturers' Association met in French Lick Springs May 25 to 28 with the largest attendance in the history of the association. Perhaps the most striking occurance of the convention was the passage of the following resolution:

"Resolved: That the board of directors of this association be and hereby is empowered to appoint a special committee of three to confer with representatives of—

a. The medical and chemical professions,

b. The various branches of the pharmaceutical industry, and

c. The U. S. Department of Agriculture, the U. S. Public Health Service, and the Bureau of Standards to consider legislation directed to the creation of a National Drug Standards Commission empowered to establish legal drug standards for the enforcement of the Federal Food and Drugs Act."

This resolution is a move to abolish the present self perpetuating body that now revises the U. S. Pharmacopoeia and provide means for establishing a definite legal method of establishing the standards that are now covered by the U. S. P. It is believed to be the intention of those promoting this plan to assure the drug manufacturing industry of a definite place in the determination of drug standards. It is believed that those responsible for this move forsee an eventual move to place the determination of standards in the hands of a government body, and it is believed that the present move is an attempt to assure the drug manufacturing industry of a place on such a commission rather than to have the industry completely without voice in such matters.

Still another forward looking resolution reads as follows:

"Resolved: That this association reiterate its approval of a Federal Law against false and fraudulent advertising."

S. W. Fraser, Burroughs Wellcome & Company, will serve in the capacity of First Vice-president

L. D. Humphreys, G. F. Harvey Company, will fill the office of Second Vice-president of the association

Clarence W. Warner, Maltbie Chemical Company, has replaced the new president in the office of secretary

A third amendment that expressed dissatisfaction with the present methods of regulating the drug manufacturing industry, and in this case, all industry concerns the Anti-Trust Law:

"Resolved: That with respect to the revision of the anti-trust law:

a: This association opposes any revision of its prohibition against monopoly and undue restraint of trade;

b. This association favors its revision to permit small business to take cooperative action necessary in the circumstances of modern distribution;

c. This association favors its revision to permit any trade or business action directed and effective to secure constructive competition;

d. This association favors its revision to outlaw predatory price-cutting and unfair price competition and to empower due preventive action against such unfair competition."

While a large number of the members of this association have long been engaged in a major way in the distribution of their products to dispensing physicians, the membership as a whole realizes that dispensing physicians are rapidly decreasing and that the promotion of their products must be mainly through the retail drug trade.

Distribution Conference

With this in mind a round table discussion on the subject of "distribution" occupied an entire afternoon session of the meeting. The meeting was opened by Charles Wesley Dunn, counsel of the association who expressed very strongly the opinion that it is unsound for retail druggists or anyone else to attempt to win competitive battles by means of legislation designed to hamper those with whom they are in competition. The retail trade, stated Mr. Dunn, is the chief advocate of such legislative attempts. He decried attempts at legislation designed to restrict to pharmacists the sale of harmless, package household products when the pharmacist is in no wise responsible for the product. He thought that the attempt to tax chain stores would only result in throwing the chain stores into politics with the result that costly legislative battles between the chains and the independents would ensue to the benefit of no one.

Following the discussion by Mr. Dunn, Ray A. Whidden, president of Bauer & Black, presented the manufacturers' side of the problem. Jr. Whidden's address was more a statement of conditions as they are generally known to exist without any attempt to suggest methods by which manufacturers might overcome their difficulties.

Swan Brookshire, proprietor of a professional pharmacy in Indianapolis, spoke as a representative of the newer trend in drug stores—that is the trend to the professional pharmacies in the larger cities.

Julius H. Riemenschneider, president of the National Association of Retail Druggists, admitted, in answer to Mr. Dunn's criticism of legislative attempts on the part of retailers to correct competitive conditions, that this constituted a move on the part of retailers when they were in a desperate position. He said that he did not favor such tactics and wished that other means were available and could be used.

The chain store was represented in the discussion by A. L. Starshak, treasurer of the Walgreen Company, who was very emphatic in his statement that chain drug stores could not maintain prices on all items even when they desired to do so since they are subject to competition from other chains in the drug trade and also from chains not in the drug trade. When the statement was made that Walgreen stores were selling Gillette razor blades at 59 cents for a package of ten blades, Mr. Starshak was quick to reply that his chain was merely meeting competition instigated by a cigar store chain.

Mr. Starshak spoke of the development of the "pine board drug stores" which do not attempt to do any business in prescriptions or simple drugs. There is only one store of the 446 in the Walgreen chain which does not have a prescription counter.

Wroe Alderson, Bureau of Foreign and Domestic Commerce official in charge of the St. Louis Drug Store Survey, told of the work being done in this survey and indicated how ever so many questions could be answered from the information that is being compiled. Costs of all operations within a drug store will be determined, and the cost of filling prescriptions will be known, as well as the cost of many other operations the cost of which have previously been determined more by guess-work than by any other method.

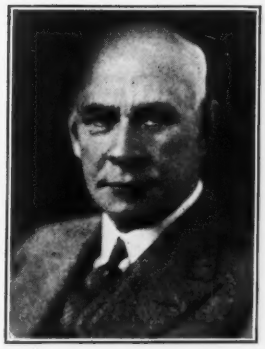
Health Trends

One of the most interesting addresses delivered at the meeting was that of Dr. Allen McLaughlin, medical director in the U. S. Public Health Service who spoke on "Health and Disease Trends". Dr. McLaughlin told of the trend from curative to preventive medicine, and the change from the time when quarantines were made effective as a means of preventing the spread of disease although these proved quite ineffective due to the fact that the medical profession was ignorant of certain facts. The trends toward state medicine was freely discussed, as well as the need for better diagnostical facilities in the smaller communities. Medical fees, he thought, should be determined by the county medical societies in accordance with the means of the patients.

Dr. McLaughlin traced the trends of diseases, telling of the prevention and elimination of a great many diseases such as diphtheria, small-pox, typhoid and yellow fevers. He stated that while he was not unmindful of the great work done in biologics and of the work still to be done, he felt that the greatest progress in medicine during coming years would result from the work of the research chemist. This work,

(Continued on page 623)

Progress in Proprietaries



Frank Blair has started his eighteenth year as President of the Proprietary Association

WITH an attendance that proved as enthusiastic as it was large, the Proprietary Association annual meeting swung into action on May 19 for its two day session under the pleasant guidance of the association's perenially elected president, Frank A. Blair. Representatives of allied associations were called upon and most cordially greeted during the opening session.

However, the high points in the meetings were reached when governments officials from those departments which regulate and aid the drug manufacturing industry delivered their addresses. Perhaps the peak of this interest occurred on the morning of the second day in the questioning of Dr. James J. Durrett, Chief of Drug Control, Food and Drug Administration.

Dr. Durrett undertook to answer a list of prepared questions that President Blair had before him. And while Dr. Durrett was giving his opinions, James A. Horton, Federal Trade Commission official concerned with advertising control, listened attentatively to the views of the trade and the views of the Dr. Durrett. Dr. Durrett, as usual, handled himself quite well, with the possible exception of his answer to the question of Harry B. Thompson, counsel of the association involving the refusal of Drug Control to allow the use of names of diseases for which there is no direct definite cure, on labels of medicines that are ordinarily used by physicians in treating these diseases. This question involved the difference of opinion between drug control and the court in the case of Lee's Save the Baby Dr. Durrett, in answer to this question proceeded to a statement of the fact that the department did not feel that merely because laxatives might be necessary in cases of tuberculosis and cancer, that it was proper to allow the use of the names of tuberculosis and cancer on labels of laxatives. When told by Mr. Thompson that nothing was stated in the question regarding the diseases that Dr. Durrett chose to discuss, Dr. Durrett went right ahead and told his opinion of tuberculosis, cancer and laxatives all over again.

An another stage in the questioning, Mr. Blair asked Dr. Durrett if he had been correctly quoted in April, 1931 Drug Markets under "Permissible Tonics," and if he had been correctly quoted, he was said to be a therapeutic nihilist for the reason that an editorial contained in the "Journal of the American Medical Association" in May 1930 defined an therapeutic nihilist as one holding the views expressed by Dr. Durrett in Drug Markets. Dr. Durrett said that he had been correctly quoted in Drug Markets, but at the same time he went into a long explanation of just why such statements did not make him a therapeutic nihilist which accusation he fully denied

Another question which created much interest was one involving Drug Control's regulation of medicinal product for export. In this case Dr. Durrett stated clearly that it was the Food and Drug Administration's policy to require that export product meet all the

requirements of products manufactured and packed for the domestic market unless the shipper could show a certificate from the receiver in a foreign that the products as being shipped were as the receiver desired them and that the products as being shipped were as the receiver desired them and that the products as shipped met the requirements of the laws regulating drug products in the country in which the receiver was located.

James A. Horton, who addressed the association on the work that the Federal Trade Commission is doing in advertising control, spent a large portion of his time in quoting the court decisions, etc., which gave the Commission the right to engage in work of this character. He reviewed most of the work that had been done to bring the Commission to its present stage of proficiency in this work.

At the conclusion of Mr. Horton's talk, President Blair told Mr. Horton that the changes in advertising methods and in many of the methods of selling proprietary medicines were not due in large measure to laws and government regulation, but were in fact due to changes in conditions. Mr. Blair said that medicines could not be successfully sold by the older methods under the conditions that exist today.

On St. Louis Survey

Wroe Alderson, Department of Commerce official in charge of the St. Louis Drug Store Survey, told of the work done thus far in this survey, and just how this information would be useful to the various branches of the drug trade. For the purposes of the survey, proprietaries have thus far been divided into the following subdivisions: Antiseptics, cough drops, lozenges, emulsions, eye preparations, invalid and infant foods, disinfectants, foot, corn, and bunion remedies, laxatives, ointments, salves and jellies, tonics, pills, capsules, tablets, syrups, suppositories, effervescent salts, teas, miscellaneous

The proprietary group contains some 1,000 to 2,000 commodity items, or from 20 to 30 per cent of the number of items carried in each store. Items classified in the prescription department run slightly higher than this. However, the proprietary and prescription items do not make up as large a percentage of the value of the store inventory as they do of the percentage of the number of the items. As an instance of this Mr. Alderson told of a store which contained proprietary and prescription items that represented 21 and 31 per cent., respectively of the total number of items in the store, but which only represented 17 and 18 per cent., respectively, of the inventory value.

Harry B. Thompson, counsel of the association, in his address placed great stress upon the case of Lee's Save the Baby, quoting Judge Thomas' decision to show that Drug Control has gone too far in its interpretation of the law, but at the same time warning manufacturers that there are definite limits to which a manufacturer can go even in a reasonable interpretation of the law. He told of the proposal to place advertising control within the scope of the Food and Drugs Act and advised against allowing such a thing to take place.

"This would result in increased multiple seizures," said Mr. Thompson, who continued, "In your advertising you would be confronted with the desire of officers, possessed of honest hearts and educated minds, who desire to do right but who also desire to make you do right in the light of their own viewpoint. This situation would be intolerable."

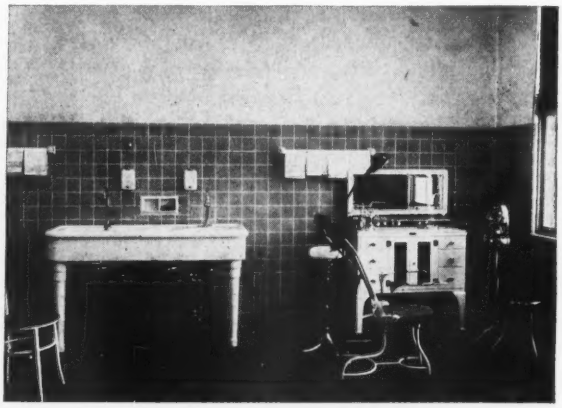
"I have discussed this situation because it is well known that the department will seek to secure the enactment of legislation giving to the administration the control of all advertising matter. This will broaden the opportunity to impose its will upon manufacturers. This is a situation; it is not a theory.

"Citizens should not permit government by law to be torn down and a government of individual commandments to be set up in its place."

Other government officials present at the meeting were Dr. James J. Doran, Commissioner of Industrial Alcohol; and Thomas W. Delahanty, Assistant Chief, Chemical Division, Bureau of Foreign and Domestic Commerce.

At the conclusion of the meeting, Frank A. Blair was elected to his eighteenth term as president of the association. Other officers were also reelected as follows: First Vice-president, E. K. Hyde, Mentholatum Company; Second Vice-president, J. H. Howe, Lewis Medicine Company; Secretary and Treasurer, Charles P. Tyrrell, Syracuse Drug Company; Executive Committee members, A. H. Beardsley, Dr. Miles Medicine Company; J. H. Hindes, Emerson Drug Company; J. Z. Patten, Chattanooga Medicine Company.

Dr. Edward C. Merrill, United Drug Company, was reelected chairman of the Section on Scientific Methods and Practices. Ervin F. Kemp was reappointed general representative; and Harry B. Thompson was reappointed counsel.



Corner of hospital at Swann Chemical Co. plant

Multiple Seizures Are Checked

The Food and Drug Administration is denied its contention that it can completely remove from the market a product that it declares wrongfully labelled without proving its case in court.

THE decision of Justice Charles H. Robb of the District of Columbia Court of Appeals in the case of National Remedy Co. against the Secretary of Agriculture and other department officials is regarded in drug trade circles as a body blow to the Food and Drug Administration. The case involved the question whether an injunction should be issued against the officials to restrain them from making multiple seizures of B. & M External Remedy. The decision overruled and action of the District of Columbia Supreme Court in dismissing the plea of the National Remedy Co. for such an injunction.

The decision has been the subject of eager perusal, earnest consideration and conference and interesting comment both in official and in trade circles. Admittedly, it will, if sustained, especially in connection with the sustaining of the court decisions against the government in the case of Lee's Save the Baby and in the Capon Springs Water case, result in a radical change in the policy and methods of the Department of Agriculture in enforcing the food and drugs act. It appears impossible to reach any other conclusion. Officials of the Department at this writing had not come to any conclusion, regarding an appeal in the multiple seizure case. Final decision of this question will rest with the Department of Justice.

According to department officials, one of two courses is probable. The Department can go back to the District of Columbia Supreme Court for a trial on the merits of the question and the facts of the case, with a view to determining whether the National Remedy Co. is entitled to an injunction to stop multiple seizures of B. & M. External Remedy. In connection with this possible course, it is explained that the lower court did not consider the facts and merits of the case, but only questions of law involved. In passing upon such questions of law that court held that the company's plea for injunction should be dismissed. The Court of Appeals has reversed the lower court on this proposition and has remained the case to the lower court for "further proceedings not consistent" with Judge Robb's opinion.

The second course open to the Department of Agriculture would be to seek an appeal to the U. S. Supreme Court from the Robb decision, on the ground of legal error. Such an appeal could only be had under a writ of certiorari. The granting of a writ of certiorari is discretionary with the U. S. Supreme Court. In most instances it refuses such writs, and such refusal finally closes a case.

The first course above outlined involves a trial of the case on the facts. The second course involves an appeal, if possible, on questions of law. If the case goes back to the lower court for a trial on the facts, an appeal would be possible later, on the basis of the decision reached in such trial, to the D. C. Court of Appeals and the U. S. Supreme Court. As the situation now looks to trade representatives, there does not seem much for the government to appeal upon, from the Robb decision to the Supreme Court.

Walter G. Campbell, Director of Regulatory Work, Department of Agriculture; Dr. J. J. Durrett, Chief of Drug Control, and other officials engaged in such work say that they have not read the Robb opinion and are not prone to comment much upon the case. Mr. Campbell, however, has said that if the decision stands it may prove a serious handicap to the Department in removing misbranded and adulterated food and drug products from the market. Mr. Campbell is quoted further as saying he is anxious for an adjudication of the questions at issue in the multiple seizure case by the U. S. Supreme Court if possible. It is suggested, however, that possibly such an appeal and adjudication may be deemed more appropriate after trial on the merits of the case in the lower court.

Unofficially, Department people express entire confidence in the ultimate result of the litigation.

The law either authorizes multiple seizures, or it does not authorize them, according to Department officials, and in their opinion there is no doubt that the law does authorize such seizures. There is no middle ground, as they see it. They point to section 10 of the food and drugs act for the authority to make multiple seizures. They say that section authorizes the seizure of adulterated or misbranded food and drugs in any federal judicial district in the United States; that there is no limit placed upon the number of such seizures that may be made.

Judge Robb held in effect that multiple seizures might be deemed necessary to protect the public in extreme cases involving flagrant violation of the law, but that Congress did not contemplate multiple seizures in ordinary cases. Some of the "dissenters" assert that the law itself says nothing of that kind, makes no distinction between minor cases and flagrant cases. Sometimes a court, it is said, wanders afield and expresses its opinion of what a law *ought* to be.

Warned of Excessive Use

That the multiple seizure power, if it is such power, has been used to excess, has long been the opinion of conservative and fair-minded men in the drug trade. Some of them are understood to have suggested to Department of Agriculture officials that they have been endangering a powerful instrument shaped for their use, by going to extremes in making multiple seizures. Officials have been warned by friends in the trade that the courts would not stand for unlimited and discriminatory making of multiple seizures. Nevertheless, it is said, the Department has continued more or less consistently to drag manufacturers onto the carpet and threaten multiple seizure of their products if they would not change their formulas or their labels to conform to what officials thought the law prescribed.

Since the promulgation of the D. C. Court of Appeals decision in the National Remedy Co. case, it is rumored in trade circles that a more conciliatory attitude is noticeable in official circles. Officials are reported to have said that there should be more of a spirit of "cooperation" between the trade and the Department. The reply comment in trade circles is that the trade has always been willing to cooperate, but does not like being threatened with multiple seizures indiscriminately.

Nobody denies that multiple seizures can be made in some instances, and even drug trade people are willing to admit that such seizures may be necessary at times. For example. if large quantities of food products were shipped, infected with typhoid germs or botulinus poison, it is agreed that all such shipments should be seized unmercifully. Again, if it should be found that a drug preparation were shipped so labeled as to call for an excess dosage of nitro-glycerin or some other powerful drug, it is conceded that seizure should be applied without stint or limit. But it is pointed out that in such cases the life and health of the public would be endangered.

It is a far cry from such cases, however, it is declared, to cases involving simple remedies, external applications, bug poison, and what not, bearing perhaps unwarranted labeled claims, but invovling no particular danger or harm to the public. In such instances, it is declared, multiple seizures have no important beneficial effect for the public and only operate so as to tend to force a product off the market and its manufacturer out of business, without opportunity being offered to try out the questions at issue on their merits. In most instances of alleged misbranding and adulteration, it has long been trade opinion, protection for the public could be obtained by making one seizure and trying out the questions involved in it in a libel proceeding involving a single shipment.

Agitation for Years

The agitation in drug trade circles against multiple seizures had been brewing under cover for some time. It came to a head, so to speak, two or three years ago, when W. L. Crounse, Washington representative of the National Wholesale Druggists Association, attacked the practice in a report to that association and suggested legislation to amend the food and drugs law so as to stop indiscriminate multiple seizures. Such legislation was proposed at one time in Congress. It would not be necessary, however, if the decision in the National Remedy case stands the final acid test of the courts. Naturally pioneers in the anti-multiple seizure field are pleased with that decision.

The decision followed by only a few weeks action taken in the federal district court in Baltimore in a case involving the seizure of a shipment of the same company's B. & M. External Remedy. This letter case had been set for trial on its merits. The government is reported to have expended at least $50,000 in getting ready for that trial, for analysis and tests of the product, samples, witnesses, expert testimony, medical evidence, travel, subsistence, etc. When the time came the National Remedy Co. did not choose to fight the case out at that trial. The goods involved was therefore declared forfeited and ordered destroyed, on the ground of violating the law.

In the light of the Robb decision a few weeks later, it would be interesting, but perhaps fruitless, to speculate upon possibilities as regards the Baltimore case, if disposition of the latter had gone over until after the injunction case was disposed of. In that event, the National Remedy Company, it is believed, would have been better fortified to contest the Baltimore case than it was at the time the latter was called.

Judge Robb, in his opinion, recites statements made in the National Remedy Company's appeal to his

(Continued on page 592)

INNOCENT BUYERS

And So-Called "Milk of Magnesia" Preparations

Many Preparations Labeled "Milk of Magnesia" Are Nothing More Than Mixtures of Magnesia Powder and Water

According to recent laboratory tests, it is now indicated that many preparations on the market labeled "Milk of Magnesia" are nothing more than mixtures of magnesia powder and water.

So be careful what you get.

Note that such preparations are clearly labeled "Milk of Magnesia." And, thus, that the name "Milk of Magnesia" on a bottle offers you or your children no certain protection. *Watch out.*

Your own druggist may not as yet know this situation. And thus, in all innocence, sell you one of these mixtures of magnesia powder and water, if you go into his store and ask only for "Milk of Magnesia."

For this reason the public is openly and publicly urged to ask for and accept *only* genuine Phillips' Milk of Magnesia—*as endorsed by doctors*—for use in the home, *Especially* when it is used for children.

Leading doctors, the world over, endorse Phillips' Milk of Magnesia as one of the finest products known to modern science, in protection of the public health.

None of these products made of magnesia powder and water are "like" or the "same" as genuine Phillips'. They can't be. For Phillips' is made in a laboratory with more than 50 years experience in the making of Milk of Magnesia. Some of the methods developed in making Phillips are used *exclusively* in the Phillips' Laboratories.

SAFETY

For You and Yours in This Bottle

You can assist others by refusing to accept anything but the genuine Phillips' Milk of Magnesia. Do this in the interest of yourself and your children—and in the interest of the public in general.

Hence, for 50 years, Phillips' has been recognized as the world's leading laboratory devoted exclusively to making the finest magnesia products.

What folly, then, in the light of these things, to take chances on some other product of which you know nothing. What an injustice to yourself or your children to let anything but the recognized *Finest in Internal remedies* come into your home.

Our interest in this does not matter, but yours does. Get the genuine Phillips' Milk of Magnesia at any drug store. Ask for it by name and identify it by the package illustrated in this advertisement—the blue package with the signature of Charles H. Phillips on the label.

Accept only *Genuine* PHILLIPS' MILK OF MAGNESIA Which Doctors Endorse

Milk of Magnesia Agitation

ALL of a sudden there has started agitation over the quality and method of preparation of Milk of Magnesia. In the daily newspapers advertisements were run by The Charles H. Phillips Chemical Company—manufacturer of Phillips' Milk of Magnesia and subsidiary of Drug, Incorporated—to the effect that all Milk of Magnesia is not as it should be. "Mixtures of powder and water" are mentioned in the advertisements as being offered innocently by druggists. The statement is made that "none of these products made of magnesia powder and water are like or the same as genuine Phillips. They can't be."

At the same time in several retail drug journals appear communications on the same subject. These communications appear to have emanated from one Frank Crossley, Consulting Chemist. The communications state plainly enough that Milk of Magnesia made by other than the original method is misbranded. To extract from this statement:

"There are on the market today a considerable number of brands of Milk of Magnesia, which do not conform to the recognized legal standards and are therefore misbranded.

"The standard for Milk of Magnesia is the U. S. P. this same standard appearing in the N. F. and the U. S. Dispensatory.

"For a complete definition of Milk of Magnesia we must refer to the original patents of Chas. H. Phillips and Lawrence Reid—1873 and 1875.

"From these we find the product to be a special form of magnesium hydroxide, prepared by a precipitation process, producing a magnesium hydroxide of a colloidal nature.

"The standard appearing in the U. S. P. was modeled after the specifications of these patents, the U. S. P. specifying an amount of magnesium hydroxide not less than 7 per cent. suspended in water.

"It is quite important to note from the patents on Milk of Magnesia, that Milk of Magnesia is a colloidal form of magnesium hydroxide.

"The misbranded products referred to are labeled Milk of Magnesia sometimes U. S. P. appearing on the label and other times omitted. On some of the labels appear the qualifying statements such as "Prepared from the Oxide"—"Hydrated—Magnesium Oxide." These qualifying statements do not, however, protect the manufacturer in the event that legal action be taken in the matter of misbranding. These products are labeled Milk of Magnesia and must therefore conform to the legal standard as set forth in the U. S. P.

"It is a well recognized fact by those conversant with the oxides and hydroxides of magnesium, that it is not possible to prepare by the hydration of the oxide, a magnesium hydroxide of the same nature, quality and substance as that produced by following the specifications of the original patents of Phillips and Reid, the U. S. P., the N. F. and the U. S. Dispensatory.

"This misbranded product prepared by the hydration of the oxide is simple and easy to make and requires little or no investment of the part of the manufacturer.

"A firm of manufacturing chemists supply what they claim to be a special form of magnesium oxide, which they advertise specifically for this purpose, giving directions for making the so-called Milk of Magnesia and even go so far as to supply a quantity of bottle labels with the material.

"The wholesale manufacture of this inferior misbranded product—so-called Milk of Magnesia has undoubtedly been responsible for much of the price cutting in Milk of Magnesia and I am much surprised that manufacturers of the genuine Milk of Magnesia have not taken action before now, in restraint of the sale of the same.

"Recently I discussed this matter with the pharmacist in charge of one of the stores of a large chain of drug stores who at the time were giving quite a window display of the misbranded product. The product was labeled Milk of Magnesia—Hydrated—Magnesium Oxide. The Pharmacist finally admitted that the product was misbranded and further stated that he had noticed that their product was not as smooth as that prepared in accordance with the U. S. P.

"This is just the point—Hydrated—Magnesium Oxide is of a crystalline nature and not smooth like the precipitated Magnesium Hydroxide which is of a colloidal nature, when prepared strictly in accordance with the specifications as set forth in the original patents and the U. S. P.

"This very difference in the physical properties of the magnesium hydroxide was the basis of the patents of Phillips and Reid, which was later accepted by the medical and dental professions and the product finally admitted to the U. S. P.

"A glance at the U. S. P. immediately imparts the knowledge that the method of preparation for Milk of Magnesia is the precipitation of magnesium hydroxide by the combination of magnesium sulfate and caustic soda, the sodium sulfate being washed out. There are manufacturers other than Phillips who manufacture Milk of Magnesia by this method, but evidently there are some who merely mix the magnesium oxide with water which produces the hydroxide."

Noblesse Oblige

We are reprinting in full two reviews of our Catalog and Directory which have appeared in the trade press. In doing so, we wish to thank our two contemporaries for the interest thus shown and to express our appreciation for their courtesy in reviewing the book for their readers.

An Excellent Directory

Reprinted from "The American Perfumer"

DRUG MARKETS CATALOG AND DIRECTORY, compiled by Drug Markets Editors and a consulting Staff. Cloth. Quarto. New York, 1931. Price $3.00.

Many attempts have been made to publish a directory of raw materials, machinery and supplies for the drug and allied industry but most of them have been abject failures and none until the present has been worth anywhere near the asking price. The problem of co-relating the requirements of the readers with the demands of advertisers has always proven too great for the compilers; and, no matter how earnestly they set out to make an independent guide book, each time they have fallen from grace.

This does not mean that the present work is a perfect example of all such a book should be. The advertisers are still "given a break" and in a few instances are listed under products rather remote from those which they actually manufacture. But we cannot be too severe upon the editors. They are not omniscient and they are human.

However, this is the best guide book which has come to our attention thus far. It is really worthwhile and we congratulate the compilers on their work. One or two matters which interfere with the usefulness and accuracy of the present edition will doubtless be corrected next year.

Our readers will be especially interested in the sections on essential oils and machinery. They alone are worth the price of the volume.

A New Reference Book

Reprinted from "The Glass Packer"

Quite the most ambitious project of its kind ever undertaken in the drug industry is the new "Catalog and Directory" just published by DRUG MARKETS, New York. In this reference book, the editors have compiled a fund of information of staggering proportions with data that all who are closely identified with that industry will find extremely useful.

The foreword of the directory states its purpose: "a technical and commercial digest of machinery and equipment, packages and shipping materials, essential oils, flavors, aromatic chemicals, botanicals, drugs and spices together with a directory of the principal supplies."

We congratulate our contemporary, DRUG MARKETS, on completing successfully an undertaking of such magnitude. The work is well done. Its value to the trade is certain to be recognized and we hope properly appreciated.

French Sarriette, or Savory

French Sarriette, or Savory as gathered

AMONG the interesting aromatic plants is that known as savory, or in French *sarriette*. The words sarriette and savory come from the Latin *satureia*, the Greek designation being *timbrion*. Old French authors called it *sadré*, *savouré*, herb of Saint Julian. Savory comes under the head of the labiates, comprising some fifteen different varieties or species. It is a shrub-like plant, and grows wild or is cultivated, the latter being known as *Satureia hortensis*, L. The savory which grows in the mountains is designated as *Satureia montana*, L., or *Satureia hyssopifolia*, Bert. In the provencal language of southern France the mountain savory is known under the name of *pebre d' ai* (donkey pepper). It is met with on calcareous hillsides that are stony. The garden variety of savory grows in the arid regions of the south of France, and may be found in the wheat fields after the harvest, this type of soil apparently being very favorable to it.

There is some resemblance between the savory and hyssop, the two being confused now and then, particularly in sales of the leaves to the herborist trade. In fact, it is stated that a certain amount of fraud exists in this direction, some of the more unscrupulous persons dealing in plants of this kind deliberately substituting the savory leaf for that of the hyssop. Naturally, any one knowing his business can not be imposed upon in this way, but there still remain a number of sufficiently gullible purchasers to make the possibilities of such farud a matter of profit to those practising it.

Mountain savory attains a height of 20 to 35 centimeters, and the flowers are small, yellowish, or slightly purple, growing alone at the summit of the branches. The seeds are brown, finely shagreened. The stalks are woody at the base, and the leaves are tough, linear.

The garden type of savory, an annual, is less developed. Its stalks are herbaceous, covered with more leaves, with branches frequently of reddish color, and leaves soft, also linear. Flowers of the garden savory are whitish and dotted with red, growing in a bouquet from the summit of the branches.

Rolet points out that one must not confuse the savory with the so-called *Satureia graeca*, L., or *Micromeria graeca* Benth. Furthermore, it is totally different from the so-called *Satureia Juliana* L., although to appearances they may seem to resemble each other.

Some years ago the savory was looked forward to by many growers as a possible profit-producer, due to the fact that it was used in the perfume and the pharmaceutical industries. There is still a certain amount of savory used throughout the world, but the widest use to which it is put is that of serving as a condiment. The medical profession in a number of countries does not employ savory on the same extensive scale as before. Some of the plants are today treated for the essential oil they contain, but the amount of oil produced does not run into large figures, when compared with other perfume and aromatic cultures. Both the garden and mountain variety are utilized by the distilling perfumer, but the use of essential oil of savory has not, up to the present time, been clearly defined, as is the case with the long list of essential oils used by the manufacturing perfumer each day.

Fouquet defines essential oil of garden savory as follows: light yellow liquid, with a density of 0.885 to 0.897, and solubility 1 volume of oil in 1.5 volumes of 90° alcohol. Sassard gives the following for the oil taken from mountain savory: Density at 20° 0.911; rotatory power 0° 1^1; index of refraction 1,4855; ester index 36.12; phenols 23.76; solubility 1 volume to 22 volumes in 70° alcohol.

The oil, obtained by distillation, contains thymol and carvacrol, and it is used in countries like France for the manufacture of diverse liqueurs, such as chartreuse, for example.

Virgil extolled savory, and up to the last century doctors advised its use in infusions, stating that it would help a long variety of ailments. In fact, such infusions were used internally and externally. Among many of the peasant folk of Europe the plant is still utilized in the home to cure this or that, or, at least, to alleviate the condition. However, it must be said that the virtues of savory have lost some with the passing of time, and enters mostly into home remedies.

An infusion that is popular among the peasants of France is that made with 20 grams to the liter.

The savory plant is usually multiplied by means of seeds sown at certain periods of the year, although it may also be done by division of the tufts, particularly in the case of the mountain variety, which is very hardy and robust.

Garden savory, an annual, as already stated, is sown in light soil at the end of April in the northern districts of France, and the end of February-March in the southern regions. The seed shows signs of life after about a week or a little more. Naturally, this species is planted each year, but if allowed to go to seed the sowing will be taken care of automatically.

In northern France it has been found wise to cover with straw the base of the mountain variety.

The stalks are gathered in the springtime during the flowering season, and they are distilled in as fresh a state as possible, or they are dried in drying sheds for the herborist trade.

Industry's Books

America Chained, by Montaville Flowers, 351 pages, Montaville Flowers Publicists, Ltd., Pasadena, California, $3.00 net.

A frankly controversial discussion of what's wrong with the chain store. According to Mr. Flowers, there is plenty.

Business Administration, by Willis Wissler, McGraw-Hill Book Co., New York.

A panorama of money, markets, men, machines, materials, and method, examined and interestingly discussed in all their relations and interrelations in the modern business world.

Business Adrift, by Wallace Brett Donham, 165 pages, Whittlesey House, McGraw-Hill Book Co., New York, $2.50 net.

One of the most widely discussed books of the past month, the ideas expressed in these pages should be part and parcel of the knowledge of every enlightened and progressive business man. It is another expression of dissatisfaction with the present business order such as is finding its way into practical, as well as theoretical, business thinking. The first part of the volume, together with the introduction by Alfred North Whitehead, is the outstanding part of the book, pointing out that rationalization is necessary in meeting future business porblems if capitalistic civilization is to endure. The objective is to analyze business in relation to future problems. The second part of the book makes an effort to apply the principles thus developed to present business problems.

The Challenge of Chain Store Distribution, by M. M. Zimmerman, 334 pages, Harper & Brothers, New York, N. Y. $5.00 net.

A study of the chain store instigated by "Printers' Ink" which appeared in the pages of that magazine as a series of twenty-five articles. Written to answer the question, "What are the problems that the chain store has presented to the manufacturer and how may they be solved."

Fighting Disease with Drugs, a Symposium, edited by John C. Krantz, Jr., 230 pages, The Williams & Wilkins Company, Baltimore, Md., $2.00 net.

The story of drugs—what they are, where they come from, how they act—each chapter written by an authority. Some of the chapters are the dawn of pharmacy, the source of drugs, drugs made by man, vaccines and serums, the corner drug store, drugs and the law, outlook for the future.

A Synopsis of the United States Pharmacopoeia and National Formulary Preparations, by H. J. Fuller, 247 pages, P. Blakiston's Son & Co., Inc., Philadelphia, Pa., $2.00 net.

A treatise of the official preparations of the Pharmacopoeia and the National Formulary in a concise form for the study of Latin titles, English titles, synonyms, composition, method of preparation, strength and dose, arranged as to class of preparation.

Twenty-Five Points of Grammar, by Donald G. Stillman, 89 pages, Arthur L. Burroughs, Cranberry, N. J., 95 cents net.

The outstanding points of grammar without the minor points, rule exceptions, and common mistakes which in many texts cloud the perspective of this subject.

Window Display for Profit, by William Harrall Leahy, 259 pages, Harper & Bros., New York, $5.00 net.

Those in charge of merchandising would do well to familiarize themselves with the practical suggestions contained in this book. Although primarily designed for the retailer, the manufacturers of drugs and toilet goods will find this volume of considerable help in this particular form of sales effort through the window display. Aside from a description of the fundamentals of making attention-getting displays, the author has pointed out how the display may build volume and prestige and how it can be one of the most important items in the merchandising plan.

Chlorophyll

By Frank M. Schertz*

THE importance of chlorophyll may perhaps be best realized by observing the amount produced in nature. When the fields of our country are covered with growing vegetation, the crop plants of this country alone have more than twenty million tons of chlorophyll in their cells. Associated with this chlorophyll in the plants are about two million tons of xanthophyll and one million tons of carotin.

This is only a part of the picture of the amount of these products produced annually. Investigators are beginning to realize that these pigments, every hour of the day, are gradually being formed and are gradually being altered to form nobody knows what. How they are formed and what they change into is a story that investigators have never been able to write. So, if we were to measure the total amount of these pigments produced in crop plants alone each growing season, it would be many times twenty million tons of chlorophyll and many times two million tons of xanthophyll and many times one million tons of carotin, in the United States alone.

In methods being used on a semi-commercial scale for isolating these pigments only four solvents are necessary—water, acetone, petroleum ether and methyl alcohol. By using only these four, the process

Extraction of chlorophyll, with its companions, xanthophyll and carotin, might readily be carried on when essential oils are extracted from plants.

Many unusual and very little appreciated properties attach themselves to these products which nature produces in greatest abundance, but which are used only slightly as pigments.

*Bureau of Chemistry and Soils.

has been simplified so that solvents can be recovered, thus greatly cheapening the cost.

Efforts have been made to secure the greatest possible amount of pigments from a given batch of leaves. Growing conditions of the plant as well as conditions under which the leaves are dried have all had to be considered. Factors that effect carotin and xanthophyll are different than those that affect chlorophyll. Conditions that have destructive effects on the pigments, before extraction, have had to be studied. It has been found possible to prepare a high grade of leaf meal from every plant so far studied, but the factors affecting the growth of the plant must be known. There is much yet to be learned about when to collect the leaves in order to obtain the best results. Conditions for drying and storage are more definitely known.

The highest yields of carotin have been obtained by first extracting the carotin from the finely ground leaf meal. The xanthophyll and the chlorophyll are then extracted together. The xanthophyll is separated from the chlorophyll with methyl alcohol in a large Pyrex glass tube, no shaking being necessary. In this same tube the petroleum ether solution of chlorophyll is washed free of the last traces of alcohol and acetone. By so doing the chlorophyll is precipitated in a finely divided condition. The centrifuge is then used to separate the finely divided chlorophyll from the petroleum ether mother liquor.

In this way, carotin, xanthophyll and chlorophyll are obtained from the same leaves. The pigments are then purified by redissolving, recrystallizing or reprecipitating.

Content is Small

Carefully dried leaves contain about 1% of chlorophyll, 0.1% of xanthophyll and 0.05% of carotin. Or, 5 kilograms (11 lbs.) contain 50 grams of chlorophyll, 5 grams of xanthophyll and 2.5 grams of carotin. From 5 kilograms of leaves one can obtain about 25 grams of chlorophyll, 2.7 grams of xanthophyll and 1 gram of carotin in pure form.

In obtaining carotin, xanthophyll and chlorophyll from green leaves it is also possible to extract at the same time many other valuable plant products. By extracting the chloroplast pigments from leaves that offer other commercial possibilities it is possible to cheapen the process for obtaining each of the plant products obtained. Only leaves that can be dried at temperatures suitable for the preservation of the chloroplast pigments could be considered.

Apparently there are many herbaceous materials that can be completely dried so as to obtain the chloroplast pigments and at the same time retain other valuable properties. Leaves from which essential oils are obtained offer great possibilities. Any herb that may be cut and dried at or near the flowering time offers possibilities for obtaining chlorophyll at the same time with the essential oils. The plants from which the essential oils are obtained by distillation offer the most hopeful possibilities. The mints, the tansy and the hop are worth considering. Those who are well acquainted with the drug trade can easily suggest many others.

In many plants the maximum quantity of oil is present during the flowering stage. The maximum amount of chlorophyll can also be obtained at or near this stage. These facts make possible the isolation of the oils and the chlorophyll on a profitable basis. By thus associating a young and hopeful industry with an old established one both can profit.

Source of Vitamin A

The extraction of chlorophyll is such that all the oils are extracted along with the chlorophyll. The residue left after the carotin, xanthophyll and chlorophyll are obtained all offer commercial possibilities. In the case of carotin, all of the scientific evidence available shows that carotin substitutes for vitamin A in the diet. The mother liquor from which carotin crystals are obtained should be especially high in the materials which substitute for vitamin A. If carotin is to be sold commercially as a therapeutic product then the mother liquor from which the carotin crystals are obtained offers even greater possibilities, for it contains much carotin still held in solution along with possibly many other vitamin-like substances. Commercially, the mother liquor offers even greater possibilities than the pure carotin itself and besides it is a by-product. Only for chemical and scientific purposes should it be necessary to highly purify any of the products. In addition the carotin by-product could be useful as a coloring agent for foods such as ice creams and candies. It is a naturally occurring yellow pigment and should find a welcome among food colors.

Xanthophyll, so far as known, offers no therapeutic possibilities. Investigations have shown that xanthophyll does not have any vitamin-A effect. Its relation to the other vitamins is not known. It, as a by-product, offers possibilities as a food color. It is the color found in dandelion blossoms and an isomer is found in the yolk of hen's eggs. The by-product obtained in isolation of pure xanthophyll is quite free from other impurities. It is a much purer product than is the by-product or mother liquor obtained in the isolation of carotin.

The by-products obtained from the isolation of chlorophyll are especially interesting commercially. All fractions obtained in the processes for purifying chlorophyll can readily be converted into the commercial form of chlorophyll, copper pheophytin. The purity of these by-product preparations will vary depending upon the purity of the chlorophyll fractions from which they are obtained. The first fraction is high in oils and each succeeding fraction contains less oil.

If the chlorophyll industry can be successfully combined with the essential oil industry it is from this first fraction that the essential oils may be obtained by steam distillation. The operation necessary to obtain the oil will at the same time aid in converting the chlorophyll to copper pheophytin. Any essential oil not removed from this fraction should produce a more valuable product than if all the oil were removed. Commercial chlorophyll is used in many cases where the presence of an essential oil would not be objectionable but highly advantageous. The presence of the oil in the chlorophyll would make its addition to many pharmaceutical preparations highly desirable, the color and the fragrance both being desirable qualities. Investigations so far have shown that pure chlorophyll, copper pheophytin and iron pheophytin have no effect in a vitamin-A deficient diet. However, we do not yet know what relation the other vitamins have to chlorophyll. Nor do we know the therapeutic properties of any of the fractions obtained in the isolation of chlorophyll. Here is plenty of opportunity for study on a rather large scale.

Uses of Chlorophyll

The uses of commercial chlorophyll are many. Since 1912 the United States alone has used about 90 thousand pounds of commercial chlorophyll. The average wholesale cost has been about $1.16 per pound. Last year alone we used 18 thousand pounds as a coloring agent. The amount being used each year has gradually increased. It is being used in foods to color oils and candy and icings for pastries. In the industries, candles, leather, waxes, resins and soaps are colored green with it. Pomades, salves, ointments, vaselines and mineral oils are made more attractive by its use. Medically, chlorophyll is being marketed as sodium chlorophyllin and pheophytin. Many beneficial properties are claimed for the preparations. Carotin will soon appear on the market by virtue of the fact that it has been found to have properties such that it gives a favorable effect on animals fed on a diet deficient in vitamin A.

The chemical formulas of each of these pigments are known and in a general way their chemical structures. The chemical structure of carotin and xanthophyll has been exceedingly difficult to work out and even now some points are in dispute. In several laboratories chemical work is now being done on these pigments.

When we view chlorophyll, carotin and xanthophyll as substances out of which nature makes many important compounds, at once, man sees possibilities that are opened up to him by studying and imitating as far as possible Nature's chemical methods. Practically no investigations have been conducted on these pigments using light as means of altering the pigments. Only recently has the spectrum of carotin and xanthophyll been worked out in detail. The spectrum of chlorophyll is known only in a rough way. The spectrum of these pigments is important for we know that only the light that is absorbed does work in altering the pigment molecule. If a pigment did not absorb light of a given wave length, that wave length could not alter the molecule. The pigments carotin, xanthophyll and chlorophyll are natural pigments and perhaps offer greater possibilities in studying the relation of light to chemical changes due to light than any other organic compounds. Knowing the spectrum of a pigment tells us what source of light rays to use to produce alterations in the molecule. The equipment and men who can do work of this kind are already available. All that is needed is concentrated effort.

Work of this nature offers promise of producing some of the most beneficial compounds desired by man. The compounds will be produced under controlled conditions, which makes duplication of results easily possible. Such compounds also offer promise of producing lasting good by removing the cause of pain and sickness. The compounds made will be natural compounds made in a natural way but the process will be controlled by man.

Therapeutic Properties

Already it is known that these pigments have therapeutic properties. Carotin is definitely known to produce effects that have been attributed to vitamin A. Chlorophyll, pheophytin and sodium chlorophyllin are today the center of much interest as to their therapeutic properties. A large industry is based on the medical properties of chlorophyll.

Investigators more and more are associating these pigments with chemical compounds known to be beneficial. The effects of vitamin A have been associated with greenness in plant tissue but the results do not show whether the effect is due to the carotin, to the chlorophyll or to the other substances present in the plant studied. Investigators are seeking to find a direct relation between color in plants and healthful effects produced by plants.

The color of plants has already been shown to be related to the chemicals present in the soil The vitamins present in plants as well as the color of plants appear to be directly related to soil fertility. Plants grown on plots fertilized with manure have been shown to be more nutritious and to contain more vitamins than did those grown on plots fertilized in any other way.

The amount of vitamins in a plant cannot be indicated by a study of inorganic chemical composition alone. Feeding experiments on animals that mature quickly seems to be the only method of making certain of the dietary value of plants grown upon plots differently treated. The relation of the dietary value of plants to the soil upon which they are grown is a subject for much serious investigation.

Advertising Control

(*Continued from page 540*)

Court, in its opinion, held it unnecessary to consider the merits of such a proposition. Even if all anti-fat manufacturers were guilty in the manner indicated and even if such a situation would debar the Commission from proceeding against one of them on the ground of unfair competition as between them, Commission experts assert that there would still remain to be protected possible *potential* competitors. They declare that the courts have many times recognized the importance and value of potential competition, and that a potential competitor is never unfair or dishonest, because he has done nothing. The law intended to protect potential as well as active competition, it is declared. And the public interest may be just as much involved in potential competition as it is in actual active competition.

Commissioner Humphrey's interpretation of the Marmola decision as eliminating all doubt as to the power of the Commission to find that a patent medicine is unsafe to health and life is regarded by some drug trade representatives as, in a measure, constituting the Commission a sort of co-enforcer, with the Food and Drug Administration, of the food and drugs act. The court said in effect that the Commission had jurisdiction to protect the public against false advertising of a drug that is unsafe.

As pointed out by one very prominent representative of the drug trade, this dictum of the court "clearly discloses that the Supreme Court was rather in sympathy with the findings of the Federal Trade Commission that the respondent was engaged in unfair trade methods which tended to injure the public."

To Agricultural Department officials it does not appear that the Federal Trade Commission is to be considered in the light of a co-enforcer of the food and drugs law. As one of them remarked: "Commissioner Humphrey was undoubtedly alluding to general advertising, when he said the Marmola decision confirms the Commission in its right to find a patent medicine unsafe for health. The food and drugs act may be based on the proposition of protecting the public health. But enforcement of that law proceeds on a different basis. It provides for seizure and prosecution in cases involving adulteration or misbranding of foods and drugs. The Federal Trade Commission law is based on competition in interstate commerce. If that competition is unfair and involves the safety of the public health, with reference to a food or a drug, then to that extent the work of the two branches of the government may be parallel."

The Supreme Court said that unfair trade methods are not necessarily unfair methods of competition. It is the later class of methods with which the trade commission law deals. The Commission, according to the court, showed unfair trade methods, but not unfair methods of competition.

There has been a suggestion heard that proprietary articles generally are not competitive, and therefore that they are not interested in the Marmola case. However, this view is combated by some other trade representatives, who believe that, although a proprietary remedy may be each in a class by itself, yet if similar claims are made for some of them, they are in reality competitors. This latter view is upheld by Federal Trade Commission officials. They say that there would be no difficulty found in showing competition as between a thyroid anti-fat treatment, for example, and another anti-fat treatment that was based on a system of diet, or laxatives, or baths and sweating, for the reason that all are anti-fat treatments and therefore compete with each other.

Clinton Robb, Counsel for the United Medicine Manufacturers of America, says that the Supreme Court held in the Marmola decision that the Federal Trade Commission has nothing to do with the food and drugs act administration and "no power to censor printed matter upon or within the package itself"; that doctors are not in competition with drug manufacturers, and that the Commission may not lawfully assume that because certain acts and practices tend to increase the business of one manufacturer, that such increase is necessarily injurious to another party.

As to this last, on the other hand, Commission officials assert that the courts have held that when the sales of a concern are increased by means of advertising or other unfair methods, that necessarily the sales of that concern's competitors, either active or potential, are lessened. If the public is deceived competition is injured unfairly, according to the Commission, because otherwise the public would buy competing products.

Right here, on the proposition of protecting the public from deception, and on protecting the public health from alleged harmful medicines advertised falsely, as alleged, the question arises in the mind of observers of developments whether there is much demand from the public for such protection, whether it be under the food and drugs act, the Trade Commission act, or a possible law against false advertising. The opinion has been expressed to the writer from various sources that the public is pretty well protected as matters stand, regardless of the Marmola decision or a possible new law. The further opinion has also been expressed that sometimes officials, whether of the Agricultural Department or the Federal Trade Commission, or some other governmental body, who speak of "protecting the public," are really more concerned about making a record for themselves or sustaining their own positions.

It is the view of trade representatives that the public is pretty well protected, as is, insofar as alleged false advertising is concerned, what with the activities of the Federal Trade Commission against general adver-

(*Continued on page 623*)

What the Chemist Has Done for the Physician

By Professor Roger Adams, Ph. D.*

FIRST I shall review briefly the general methods of attack by which the chemist has discovered the majority of the important synthetic products.

The first method depends upon the information obtained from a chemical knowledge of natural products such as have been used as remedies in medical science for centuries, particularly the alkaloids, such as morphine, quinine, atropine, and cocaine. With the alkaloids as a basis, a large number of our synthetic drugs have been developed. The determination of the structure of any unknown compound is at best a very complicated procedure. An alkaloid, for example, must first be extracted from the plant and, after careful purification, be analyzed in order to determine the amount of each element present. Thus in the case of cocaine, analytical results show that it contains carbon, hydrogen, oxygen and nitrogen, and from the relative weights of atoms it is possible to obtain a specific formula $C_{17}H_{21}O_4N$. The chemist must then determine how the atoms are arranged in the molecule.

With the complete picture of the molecule available, many researches have followed. The study of the synthesis of the natural products has always been one important line of work; a second is to synthesize less complex molecules which contain that grouping of the natural substance which appears to be essential to its physiological activity. As a result of such investigations many natural products have been synthesized in the laboratory, but only in rare cases have these processes been of economic interest.

The second method of attack has its dependence on the observation of the pharmacological or bacteriological action of certain very simple organic or norganic compounds, most of which in themselves cannot be used in medical treatment because of their toxicity to the human system in one way or another. With such information, in many cases in a more or less empirical way, compounds have been built up which have the proper combinations of properties for clinical use.

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The majority of the synthetic drugs which have not been developed by these two general scientific modes of attack have been built up through a knowledge of some particular compound which may have an important pharmacological action observed perhaps incidentally to other work on the substance or in certain instances found merely by an accidental test.

The relatively rapid and successful results in various fields will be illustrated. General anesthesia can be dated back to 1842 in which year Crawford Long, an American doctor, applied ether for the first time. Following shortly afterwards was the use of chloroform by Simpson, a Scotchman. In 1844 Dr. Colton used nitrous oxide to produce anesthesia in humans and Dr. Wells, a dentist, applied it in his work, though the gas and its property were discovered as early as 1800 by Davy. A wide variety of substances were studied from 1840 to 1860, but none proved to be promising. The progress during the latter part of the nineteenth century was primarily in the administration of ether and nitrous oxide. During the last decade or two further investigations to determine whether other substances could not be found which might be as satisfactory or more so than ether for general anesthetic purposes have been carried out. Perhaps the outstanding discovery, and certainly a tremendous stimulus to research, was the introduction in 1923 by Lockhardt of ethylene as a general anesthetic. Thereupon followed the study of other compounds of a similar character such as propylene, acetylene and the like, but none has given as general satisfaction as ethylene.

The trend of research along these lines in recent years has been to supplement or reinforce the anesthetics. Magnesium sulfate or carbon dioxide have been used and still more recently the preparation of the patient for the administration of the ether has come to the front. This latter treatment, the preliminary administration of a proper soporific, has been adopted in a number of prominent clinics in the United States and shows promise of being very widely accepted.

An entirely new type of general anesthetic was that introduced by the Germans in 1925. The product

"avertin" in aqueous solution is injected high into the rectum. This compound causes the patient to become drowsy in the course of two to five minutes and in the course of about twenty minutes complete anesthesia takes place which lasts for one to two hours. Time prevents a discussion of the merits or demerits of such anesthesia but it is noticeable that the number of patients treted by this method is becoming larger and larger.

Local Anesthetics

The local anesthetics present, perhaps, the most interesting of all the groups of drugs because of their development along strictly scientific lines. Cocaine, the basis for practically all of the important discoveries, was isolated first by Niemann in 1860. At first it was used as a stimulant, but its local anesthetic power was discovered in 1884 by Koller and as a consequence its popularity steadily increased from that time on. The constitution of cocaine, however, was not thoroughly understood until the latter part of the nineteenth century and its constitution was not completely determined until after 1900. As soon as this information was available the discovery of new local anesthetics came in rapid succession. Cocaine has in the molecule a nucleus of two condensed ring systems. Synthetics containing a single ring system were soon found and introduced as alpha eucaines in 1897. The betaeucaines of a similar type came shortly after. Then followed stovaine with no ring system, alypin and finally the invaluable anesthetic procaine which is less toxic than any of its predecessors.

For several years, owing to the efficiency of procaine, the investigations in this field subsided, but during the war with the supply of this product cut off in many of the foreign countries, many investigations were started in the general field of local anesthetics. It was soon realized that although procaine had many valuable properties it still could not replace cocaine for mucous membrane anesthesia nor was its action as rapid as that of cocaine where such was necessary. Since 1918 literally hundreds of new local anesthetics have been prepared, and at least ten or a dozen have been introduced into the trade. Apothesin was the first American product. Butyn was the second and was the first compound found which could satisfactorily and advantageously take the place of cocaine for mucous membrane anesthesia. Then came the new German products supracaine, tutocaine, psicaine which followed an attempt to find a single substance to replace both procaine and cocaine. One of the most recent is nupercaine which claimed to be twenty times as powerful as cocaine with a longer period of duration though somewhat slower in action at the beginning. It is a number of times as toxic as cocaine, however. Perhaps the most interesting fact about nupercaine from a chemical standpoint is its quite different structure from any of the previous local anesthetics. The newest local anesthetic is pantocain which is claimed to be less toxic than cocaine and more efficient. A further study of molecules less and less similar to the original cocaine may be expected.

There is also the very important series of local anesthetics sometimes called insoluble anesthetics of which anesthesin is the oldest and most important member. Such compounds have found a place in medical treatment.

The classical example of the efforts of a chemist to develop a new drug through observance of the properties of some simple compound is the discovery of arsphenamine and neoarsphenamine. Starting with the known bactericidal action of resnious oxide toward spirochetes, Ehrlich first prepared simple compounds of arsenic, then more and more complicated ones until finally arsphenamine and neoarsphenamine were discovered. The work was published 1912. In spite of the extreme care and thoroughness of Ehrlich in order to find the arsenic compound which was by far the best for the purposes involved and in spite of his own prediction that no other arsenic compound would be found that might approach arsphenamine in value, many other investigations on arsenic compounds have been undertaken. They have not been without results since tryparsamide for sleeping sickness and stovarsol (acetarsone) for amebic dysentery have been made available. Many others of lesser importance have come on the market.

The original work on arsenic led to the conclusion that bismuth and antimony compounds should be valuable, because these elements are related to aresnic. As is well-known, several valuable antimony and bismuth compounds have appeared which may be used alone or in conujnction with arsenic compounds.

The Barbital Group

One of the very useful classes of drugs are the soporifics of which the most important series is represented by barbital. This was first produced by Conrad in 1882 but it was not until 1903 that Fischer demonstrated that it had soporific power. This discovery, which was more or less by chance, has led into a most prolific succession of researches on the barbituric acid derivatives. Dozens of compounds have been made and a large list has been produced and brought to the attention of the physician. Of these should be mentioned those which stand out as improvements over the original, phenobarbital, ipral, neonal, dial, emytal, sandoptal, noctal, phanodorm, and nembutal. Improvements are being made frequently and still more efficient drugs in this class may be expected in the future.

A knowledge that simple mercury compounds are antiseptic has resulted in a wide variety of antiseptic organic mercury compounds of which perhaps mercurochrome, introduced in 1919, and metaphen in 1922 are the best known. But mercury salts also have a diuretic action and as a consequence, synthetic

organic mercury compounds for the purpose have become available.

Acriflavine, a very important antiseptic, was discovered through an investigation based on the observation that acridine yellow, a complex dye, had antiseptic properties. Modifications of the molecule led finally to acriflavine.

The chemist has given the doctor antipyrine. This substance was produced during an attempt to find a quinine substitute. Pharmacological tests showed it to be analgesic, thus leading to a study of the class of compounds which has proved tremendously inportant in medicine. Among the drugs used for similar purposes is aspirin discovered during the study of derivatives of salicylic acid which was known to have palliative properties in cases of rheumatism and neuritis.

Hormone Development

The tremendously important field of hormones has been developed comparatively recently. Adrenalin has become one of our most useful drugs. Isolated in 1903 by Abel it was later obtained in a pure form and synthesized. In a similar manner, thyroxin was first isolated in 1916 and synthesized in 1927. Insulin, liver extract and pituitary substances have likewise contributed much to the progress of medical science. How soon it will be before other pure hormones are available or before other synthetic compounds are discovered which may replace the natural products, cannot be foretold. The time, however, is bound to come.

The discovery, isolation and application of the alkaloid of ephedrine has been of great importance to the medical profession.

Many years back it was observed during the pharmacological study of phenolphthalein that when injected intravenously it was retained in the gall bladder but readily eliminated from the rest of the system. With the advent of x-rays and the development of apparatus which physicians might use, the chemist combined the property of phenolphthalein just mentioned and the fact that bromine and iodine compounds were opaque to the rays and studied the intravenous injection of tetraiodophenolphthalein. The results were exactly those anticipated and resulted in the well-known Graham test which is familiar to every physician at the present time for radiographing the gall bladder. These same experiments resulted indirectly in the study of the iodinated and brominated oils for examination of the lungs and other body cavities and, more recently in the development of Iopax and Abrodil or Skiodan, for kidney observations.

Time will not permit further discussion, but just a mention should be made of several other important drugs which the chemist has offered to the physician. There are the uric acid eliminants, cinchophen and neocinchophen; the vermifuges, carbon tetrachloride and tetrachloroethylene; the sweetening substance, saccharine; the heart stimulants, cardiazol and coramine; the urinary antiseptics, hexylresorcinol and pyridium; the various gold compounds for *lupus erythematosus;* plasmoquin, the one synthetic substitute for or accessory to quinine which seems to have merit; iodoxybenzoic acid for arthritis, and many others.

Biological chemistry has been responsible for many advances in the prevention of disease as well as its more effective treatment. A vast amount of research has been done in the development of serums, antitoxins, vaccines, bacterins and ampoule solutions, all of which are quite generally employed by physicians.

Can anyone question the valuable contribution of the chemist to the physician ? Can anyone believe that a modern physician can get along without the majority of those products which I have mentioned ? And still I understand that the cost of such drugs has been criticized in connection with the investigation on the expense of medical treatment.

Cost of Medical Care

A few years ago a committee of distinguished men headed by Dr. Ray Lyman Wilbur, former president of Leland Stanford University and now Secretary of Interior, was appointed to consider the cost of medical care. Various reports have been published which indicate the complexity of the problem and the great difficulties of getting reliable information which might to a solution.

I shall take the liberty of mentioning to you a few of the many interesting findings of the committee as they appear in the reports. The average earnings per employee from salaries and wages among the 30,000,000 persons attached to the various industries was in 1925 approximately $1,250. For the reason that often two or more members of the family are employed, the average income per family was considerably more—something like $2,000. The money income per family among farmers was much less than this amount. When it is considered that on the average, the total annual expense of maintaining a family of four on a mere "decency, health and reasonable comfort" budget was approximately $1,550, it will be seen many families cannot afford to pay physicians and hospital bills when serious illness is encountered.

This state of affairs is in large measure the cause of attendance upon free clinics and free hospitals which result in non-payment of physicians' bills or which cause the patient to do without any service whatsoever. Of 11,000 persons disabled by sickness in certain districts surveyed by the Metropolitan Life Insurance Company, 25 per cent were not attended by physicians.

Another problem of equal pertinence is the return accruing to the physician and other agents furnishing medical services. It is very difficult to obtain reliable information. It is almost impossible to determine what proportion of the hospitals is operated for profit.

Since income depends on investment of capital, information regarding capital investment should be available. At the present time no one seems to know how much it costs a physician to establish himself in private practice. The investment required appears to be so large and is always becoming larger with the necessity of providing new scientific equipment, that individual physicians unless most fortunately situated find it difficult to equip themselves adequately.

Of the many suggestions for a remedy to the whole situation perhaps one which excites considerable interest is that described sometime ago by a writer in the Boston Medical and Surgical Journal. A community of 900 families might advantageously be provided with service on a yearly basis by the employment of three physicians at $8,000 per year, with an expense budget of $11,000 making a total of $35,000. He estimated that 100 families might properly pay $75 per year, 300 families $50 a year and 500 families $25 per year. Thus the combined income from these sources would equal the total expense. A demonstration of this kind in a small community would be most illuminating in demonstrating the advantages and disadvantages of such a plan.

In some isolated instances, single patients or groups of patients have employed individual practitioners on a yearly basis to supervise their health and treat sickness when necessary.

A conspicuous weakness in our present system of medicine is the extensive employment of inferior types of treatment. Millions of people accept the service of chiropractors, osteopaths and Christian Scientists and of various irregular practitioners in the treatment of disease. The training of these practitioners manifestly does not make it possible for them to utilize the knowledge which modern scientific medicine has made available. Add to these the various cures and other remedies sold by drug stores. The health commissioner of New York City made up a list of 59 different methods of practice and cures found in the city.

The physicians do a great deal of free work and the consequent need of charging higher fees for patients who do pay. Why physicians practice charity towards those unfortunate people who belong to the whole community, is beyond the understanding of anyone except a doctor who has been accustomed to it and the people have taken it for granted. Nobody else does it and yet these complicated conditions go on at a time when conditions in every direction are compelling us to consider economics as never before. We have on the one hand much talk regarding the high cost of medical service and on the other hand many people who fail to pay their hospital and medical bills promptly if at all. It should be possible to improve the chaotic condition very much if the whole business were handled intelligently. The problem as a whole is such a complicated one that it will require the efforts of our most distinguished and able experts to remedy the situation.

In the consideration of the multitudinous questions which are pertinent to the whole problem is that of the cost of medical supplies and equipment for the physician. The latter has already been touched upon previously. The question of the cost of drugs to the physician is of interest to this organization. It has come to my attention that criticism has been made that the cost of medicinals contributes substantially to the high cost of medical service. It has even been advocated that many of our modern palliatives and curatives should be replaced by many of the older, cheaper and incidentally in many cases far less efficient U. S. Pharmacopoeia remedies. Such a suggestion as this seems almost absurd to one who is at all informed on the efficiency of the present-day chemicals which are at the disposal of the physician.

Are the present-day medicinals more expensive to the physician than they should be ? I am convinced that in general the selling price of such drugs based on the cost of manufacture which includes chemical, labor, selling costs and overhead is no higher relatively than the selling price of other chemicals. Complaints that have been made by laymen, based on the cost of the average prescription may be somewhat justified. It is to be expected that a distinction to the purchaser be made between those prescriptions which contain highly complicated and expensive natural drugs or synthetics and those prescriptions which merely involve the use of some of the common, far less costly ingredients.

The drugs which are now available to the physician are indispensable. The chemist has done the lion's share in making them available. In fact if a careful scrutiny is made of the drugs which are now used by the physicians, one wonders how much of the advance in medical science has been due to the chemist and how much to the progressiveness of the medical scientist himself.

The field of synthetic drugs is one of the most difficult in chemistry on account of the extensive investigations and pharmacological tests which are necessary before compounds may be used on human patients. Nevertheless one would lack foresight to predict that at the present time the best local anesthetic, the best general anesthetic, and the best analgesic, has been found. I am firmly of the opinion that gradually, though somewhat slowly, the chemist will give to the physician not only improved drugs for the present purposes for which he uses them but also many drugs which have at the present time no substitute.

From personal experience in this field following an intimate knowledge of the number of experiments that have to be made before successful results are obtained, I cannot help but plead with the business men for patience with the chemist.

The Drug Trade of Uruguay and Paraguay

By Wilbur T. Gracey

IN CONSIDERING the drug trade of these two countries I have combined them in this article for the reason that being in close proximity to the large market of the Argentine, much of the trade in drug products is through Buenos Aires rather than direct.

As a consequence, the statistical data issued by our government as to annual exports to those countries, by no means represents the total American trade. Many drug products sold to Argentina, and appearing in our statistics as relating to that country, are, in reality, intended for either Uruguay or Paraguay.

Uruguay has about the same area as the combined New England states, and supports a population of 1,741,000.

Uruguay produces locally about $400,000 worth of medicinal preparations and specialties annually—approximately one quarter of her requirements.

Products are very loosely classified under the Uruguayan statistics, and no definite figures given for drugs or toilet articles. It is difficult, therefore, to arrive at exact figures.

Estimates place annual import in these lines between $1,500,000 and $1,800,000, of which the United States supplies about 40%, France and Germany about 15% each.

The per-capita consumption of medicine is higher in Uruguay than in any other South American country, chiefly due to Uruguayan doctors almost invariably prescribing proprietaries instead of special prescriptions. The possibility of having prescriptions prepared properly outside the capital makes this procedure advisable, and the dependance that can be placed upon the standard quality of our products has placed them in the forefront.

Latest statistics give the following exports to Uruguay for 1929:

Milk of magnesia	$8,605
Cod-liver oil	144
White mineral oil	5,573
Biologics for animals	$ 85
Biologics for human use	8,076
Glandular products	7,332
Dentists preparations	166
Plasters	8,898
Linament	7,463
Salves and ointments	9,391
Tincture	1,314
Other external medicinals	8,132
Tonics	19,610
Powdered extracts	116
Cough and bronchial preparations	667
Other internal medicinals	68,615
Non-coaltar medicinals and pharmaceuticals	1,970
Disinfectants, deodorants, germicides, antiseptics, etc	472
Petroleum jelly	2,915
Toilet or fancy soap	89,907
Shaving soaps, creams, powders, sticks	9,625
Perfumery and toilet waters	10,201
Dental creams	66,287
Other dentifrices	6,240
Talcum	22,449
Face powder	2,751
Compacts	1,188
Bath and toilet powders	876
Cold cream	7,386
Vanishing and other creams	6,424
Rouges, lipsticks and other cosmetics	5,899
Other toilet preparations	55,502
Photographic goods	147,374

Imports of toilet preparations are about $400,000 annually, with France the chief source, followed by United States, Spain, Germany, Great Britain.

Lotions and toilet waters represent about 43% of imports, powders 20%, soaps 16%, creams and pastes 10%, perfumes 7% and other miscellaneous items 4%.

The leading item, lotions—principally for the hair—is largely in French hands—about 75%, though recently the American position has been improving,

and Spain has been successful in augmenting sales. The popular container is one holding 300 grams. A peculiarity of the trade is that lotions bearing names of flowers do not seem to be as popular as those bearing titles such as "kiss me" (Beseme in Spanish) or "Your laughter," and other similar words.

In creams and pastes our trade is growing, and we hold a practical monopoly in dentifrices.

Packages of toilet articles are of utmost importance, in securing trade. Lotions, perfumes and extracts in beautiful flasks, are largely purchased as gifts. This is also true of soaps, which are double wrapped and often packed in individual boxes. They are also largely sold for gifts

The Uruguayan government has for many years exercised control over the manufacture, importation and distribution of prepared medicines and pharmaceutical preparations. This is to prevent sale of preparations having no curative, preventative, or other medicinal properties.

All medicinal products shall be subjected to analyses and approval of the national council of hygiene secured. Internal revenue stamp taxes are enforced.

Foreign pharmaceutical specialties may be sold upon authorization by the national council of hygiene, and it is required that the label indicate principal ingredients.

All patent medicines and pharmaceutical specialties must be labeled in Spanish and show net weights in metric units.

Drugs and toiletries are handled largely through wholesale drug concerns located in Montevideo. Many of the drug concerns of Buenos Aires have their branch offices, or agents, in Montevideo, and there is close cooperation between the two cities.

American firms have acquired an enviable position in the trade already, and its extension is largely a matter of studying the needs of the population, keeping sufficient stocks on hand in the local branch offices, or hands of the agents, and increasing advertising appropriations. An occasional visit of a traveling representative of the firm is also advisable to keep in contact and better understand the Uruguayan situation.

The usual terms for trade with Uruguay is 90 days, the local drug concerns usually granting 30 days to 45 days to their clients, and payments being usually slow

The Paraguayan situation is similar in many respects to that of Uruguay, but by no means so important. Paraguay is some distance inland and approached by the Rio de la Plata, and the Parena and Paraguay rivers. There is also a rail route from Buenos Aires over which considerable goods pass. Train schedules are 53 hours, daily airplane service does the journey to the capital, Asuncion, in six hours, and the steamers take from 3 to 4 days. Population totals 800,000.

The latest statistics of the government give the following exports to Paraguay in 1929, but as already explained these by no means cover the entire trade, as much of the medicinal and toilet preparations sold in Paraguayan stores, come from the Argentine, or Uruguay and appear as exports from the United States to those countries.

White mineral oil	$ 68
Glandular products	84
Linaments	1,153
Salves and ointments	1,008
Other medicinals for external use	702
Tonics	8,605
Fluid extracts	646
Other internal medicinals	18,805
Other non-coaltar medicinals	1,970
Disinfectants, deodorants etc	440
Petroleum jelly	86
Toilet and fancy soap	5,091
Shaving soap and cream	75
Perfumery	801
Dental cream	1,098
Other dentifrices	80
Talcum	162
Cold cram	568
Vanishing and other creams	756
Rouges, lipsticks etc	83
Other toilet preparations	3,068
Photographic goods	2,797

Most of the toilet preparations, with the exceptions of dental creams are of French origin, as are also the perfumes, toilet waters, hair pomades etc. Spain provides most of the toilet soap, with small quantities coming from Germany. The growth of the German trade during recent years, has been noteworthy, and they are fast recovering the position they held before the war.

It is possible that trade might be built up in Paraquay by use of the parcel post, and general mail advertising, but at present practically all the trade comes through visiting agents from Buenos Aires, or Montevideo who canvas the market from time to time, and either have orders sent direct, or ship from their stocks in hand.

The Paraguayan regulations regarding drugs are very similar to those of Uruguay. The chemical office of the municipality of the capital, Asuncion, analyzes all medical preparations to be sold on the market, and they are approved by the department of hygiene.

In order to comply with the law the manufacturer must appoint a representative in Paraguay, who, in turn, makes the application.

While imports of cosmetics are comparatively small, creams for the face and hair enjoy a fair market, but the deteriorating effect of the climate precludes the maintenance of large stocks. Sales of hair preparations are increasing. The sale of perfumes is largely

(Continued on page 623)

Close-up of the Grasse Crisis*

By Honoré Michel

A situation full of import to perfumers is discussed by one on the ground.

THE Grasse perfume industry, as well as the grower of perfume-flower plants in that region, is running a very grave danger if the present situation does not find relief within a short time. A world crisis like the one we are passing through strikes at the luxury trades, and the perfume industry has not escaped. This condition takes on greater seriousness insofar as the Grasse region is concerned due to the fact that a number of errors were committed that could have been avoided. To be just, it must be stated that the errors committed may be liberally divided between the perfumers and the growers.

Insofar as the perfume industry is concerned, the empirical methods employed should have been modified to suit the conditions existing today. Technical progress has been made, but very little progress has been effected in the relationship between perfumer and grower. And it is here that we can find one of the principal causes of the Grasse crisis of today.

The favorite accusation is that the region has let itself in for overproduction. This is not very exact, for it is rather *non-consumption* one should emphasize. However, whatever the cause may be, the fact remains that there is a state of underselling, a crisis.

At a time not so long ago, no more than seven or eight years, the market price of flowers in general, and of several in particular, was raised by the perfumers of the region to heights never hoped for by the growers. Consequently, ideas with regard to some of these cultures became inflated. New plantations were established at a high cost, and it would have required a series of good years, with market prices high, to cover these unusually expensive plantations. Unfortunately, the reverse occurred. Market prices lowered as the production increased, with the result that the Grasse region has arrived at the present situation, which may be called catastrophic.

During normal times, with prices at normal, the yields of flowers and plants taken as a whole ran to some sixty millions, divided up as follows:

Jasmine, 1,800,000 kilograms at 17 francs per kilogram	30,000,000
Orange flowers, 1,700,000 kilograms at 6/7 francs per kilogram	12,000,000
Rose, 1,200,000 kilograms at 4/5 francs per kilogram	6,000,000
Jonquil, 50,000 kilograms at 20 francs per kilogram	1,000,000
Tuberose, 25,000 kilograms at 20 francs per kilogram	500,000

In adding lavender (flowers distilled at Grasse), sage, mint, geranium, violet, mimosa, etc., amounting to something between 10 and 12 millions, we are not far from the real production, as well as the prices required to take care of the cultures along normal lines.

Now, with the rose at 1 franc 25 centimes per kilogram, the jasmine at 6 or 7, the jonquil at 4 francs 50 centimes, the lavender at 40 centimes per kilogram, and other flowers in corresponding proportion, the grower can not possibly make a living.

What are the causes of this brusque downward movement of market prices ? Underselling of certain products, due to passing overproduction, as in the case of jasmine, is one of the principal causes. One fact in particular helped to aggravate this situation as applied to overproduction: a number of the large perfumers became large growers of flowers. They created immense plantations of perfume-flower plants, principally jasmine (which gave them flowers at a price higher than that paid the producers throughout the region), and this new production of 200 to 250,000 kilograms served to clog the regular channels of trade.

This has turned out to be a great error, with the end in view having been passed and the previsions distorted.

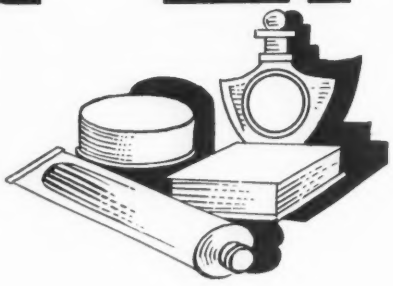
There exist in the Grasse region since 25 years, and in other perfume-flower plant districts of France since a shorter time, organizations that have expended great effort for the alleviation of the situation. If these organizations had been understood, they could have done much good. Reference is made to the production cooperatives.

The purpose of these organizations at first was to remedy the evil of underselling, and the original promoters of the cooperative movement did everything within their power to bring this about. Unfortunately, they had to fight against the inertia of a large number of the growers, producers, who kept at a distance. These divisions and lack of unity only served to complicate and compromise the result hoped for.

(*Continued on page 565*)

*Translated from a recent issue of Alpes et Provence.

PERFUME OILS



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Protection Against Sunburn*

Formulae for Compositions Specially Prepared for this Purpose.

IT IS possible to protect oneself against sunburn and snowburn by using salve sand pastes, capable of holding back the ultra-violet rays. The paste is generally a thick zinc paste which may contain ichthyol, sienna, red clay and the like, so that its color is brownish.

These products are all colored or non-transparent and non-translucent. In addition thereto, there are quite a large number of practically colorless substances, whose solutions possess the property of completely absorbing the ultra-violet rays from natural and artificial sources of light. These substances are generally preferable to the colored protective media, used, for this purpose, just because they are colorless. There belong to this group of products, such substances as quinine by sulfate, asculin and others. Still another series of substances have been used including colorless coumarin derivatives, or oxy-derivatives of asculin, salts and derivatives of oxyquinolin series, naphthosulphonic acid compounds, etc.

These colorless protective agents must always be used in dissolved form, and they must be incorporated with salves also only in dissolved form. When used in solid state there is grave doubt as to their effectiveness.

An interesting preparation has for its base vaseline and quinine. The formula calls for 10% of a patented emulsifying agent. The formula also prescribes 18% of white vaseline, of melting point 40° to 45° C., 10% of paraffin oil, white, specific gravity 0.870 to 0.875, 4% of quinine bisulfate dissolved in 48% of water, and 10% of anhydrous, light colored wool grease.

This preparation is perfumed with essential oils and aromatics resistant to acids. The white cream may also be colored with suitable acid-resistant dyestuffs. The quinine bisulfate content gives a slight acid reaction and may irritate a very delicate skin. It is recommended that a portion of the paraffin oil be replaced by ceresin wax, so that a cream stable in tropical climates is obtained. Quinine sulfate and quinine hydrochloride are not suitable for this purpose.

Salol is also used in making protective creams. The composition contains 7% of salol (phenyl salicylate) and the remainder a cold cream base. The salol is used dissolved in the liquid fatty constituents. It should be borne in mind in making salol preparations of this type that the odor of salol is not agreeable to every one and that furthermore there may be an individual idiocyncrasy towards salol. The question has also arisen as to whether or not salol produces by-reactions when absorbed by the skin. It has been proven that as small a quantity as 0.1 milligram of phenyl salicylate per square centimeter of surface will reduce the intensity of the action of ultra-violet light rays to one one-hundredth. This means that exposure to ultra-violet rays for 10 hours of a skin protected by the salol preparation produces the same effect as exposure of the unprotected skin for six minutes.

Asculin is used in making protective sunburn creams in the proportion of 3% to 4%, the remainder of the cream consisting of a glycerin salve base. Asculin is a glusocide obtained from the bark of the horse-chestnut tree. The preparation may be perfumed to taste.

A formula for a liquid and colorless protective preparation calls for the use 3% quinine bisulfate, 20% of chemically pure glycerin, 28° Be concentration, 76% of distilled water and 1% of acid-resisting perfume. A grease cream should be applied to the skin if the quinine bisulfate preparation is to be allowed to remain on the skin over night. This avoids the irritating action of the quinine bisulfate which is manifested over a long period of time.

A colored protective powder is made in the following manner. Ten per cent of magnesium stearate, 45% to 50% talc, 10% of titanium white, 15% to 20% of elutriated kaolin, 3% to 6% of quinine bisulfate, 2% sunburn color, dark and 10% sunburn color reddish.

The quinine bisulfate is dissolved to form a concentrated solution, soluble in the proportion of one part quinine bisulfate to one liter of water, and the solution is worked up very thoroughly with the talc and dried. Then the magnesium stearate and the coloring matters are added. The finer the distribution of quinine bisulfate, the better will be the absorption of ultra-violet light.

*Der Parfuemeur, 1931, 275-277.

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We come next to the agents, which promote natural tanning of skin by exposure to sun's rays, and which also protect the skin to a certain degree against irritation. It is fundamental in this connection that every animal or vegetable fat, when brought upon the skin, possesses this property. This circumstance is taken into consideration in the preparation of tan-producing preparations, sunburn oils, sport creams and the like. The oils which are used mostly for this purpose are sesame oil, peanut oil, almond oil, apricot seed oil or olive oil. Waxes are also used in making creamy products.

A green-colored sunburn oil is made in the following manner. Fifty per cent of olive oil is mixed with 49% of peanut oil or sesame oil and 10% of unadulterated oil of bergamot. Oil-soluble chloreophyll is added to produce green color. The preparation may also be made from 50% of olive oil, 44% of peanut oil, sesame oil, almond oil, apricot seed oil or cherry seed oil, 5% fatty laurel oil and 1% of unadulterated bergamot oil. This preparation has a fine, grass green color and a pleasant odor.

An emulsified white sunburn oil is made in the following manner. Five per cent of a suitable emulsifier is mixed with 20% of glycerin, chemically pure, 28° Be, 15% of oil of sweet almonds or other suitable non-drying vegetable oil, 15% of paraffin oil, white, specific gravity 0.870 to 0.875 and 45% of distilled water. The composition may be perfumed to taste. It should be shaken before use. Another formula calls for 5% of emulsifying agent, 10% of wool grease, anhydrous and light in color, 15% of white paraffin oil, 25% of chemically pure glycerin, 28° Be., and 45% of distilled water. The preparation may be perfumed to taste and must also be shaken before use. By the proper selection of the emulsifying agent and by using more wool grease, a more viscous and pasty product may be obtained. These emulsified oily preparations can be readily rubbed into the skin, without leaving behind on the skin a greasy coating. The cooling action caused by the water incorporated is noticed even when sunburn occurs.

A sunburn cream, which is moderately greasy but which does not leave the skin greasy is made by using 17% of suitable emulsifying agent 5% of white vaseline (melting point 40° to 45° C.), 10% of almond oil, apricot seed oil or cherry seed oil, 5% of white paraffin oil, specific gravity 0.870 to 0.875, 5% of chemically pure glycerin, 28° Be, 5% of wool grease, anhydrous and light colored and 56% of distilled water. Perfume may be added.

A pure white sunburn grease cream of the cold cream type may be made in the following manner. Fourteen per cent of natural bleached white beeswax is mixed with 9% of spermaceti, 10% of stearin, 44.5% of white cosmetic vaseline oil or white, odorless paraffin oil, 2.5% of borax, 19% of distilled water and 1% of perfume preparation.

A healing powder for the treatment of sunburn consists of 5% of bismuth subnitrate, 5% of anaesthesin (ethyl para-aminobenzoate), 10% to 20% of magnesium stearate and 70% to 80% of talc. Essential oils should not be added to this preparation, since they irritate the skin. A portion of the talc may be advantageously replaced by sterilized white powdered clay or titanium dioxide.

A healing salve for sunburn consists of 5% of amaesthesin or cycolform (isobutyl para-aminobenzoate), 5% of finest pulverized boric acid and 90% of neutral white salve base.

Grasse Situation

(*Continued from page 561*)

The perfume industry showed itself definitely hostile, considering these organizations as being out for battle and the consequence was that they tried to do without them by creating their own large plantations. As a result, the growers belonging to no cooperative organization were, therefore, encouraged to establish plantations, in this way bringing about a larger production than had been foreseen.

Furthermore, the repression of fraud asked since a long time by the growers has never been taken into consideration by the public authorities.

How escape from this impasse ?

Are we to see the disappearance of the industry and production of perfume-flower plants ? This would be an irreparable catastrophe for our region.

In our opinion, there remains something to be done.

The perfume industry is duty bound not to abandon the growers who have contributed to their fortune.

Those directing the cooperatives shou'd stop the internal discussions that only serve to separate them and so lead to the disappearance of these organizations.

An entente of wider scope should be established between growers and perfumers, both of which, for their own interest, should work together in order to obtain certain legal dispositions, indispensable to the good name of the perfume industry.

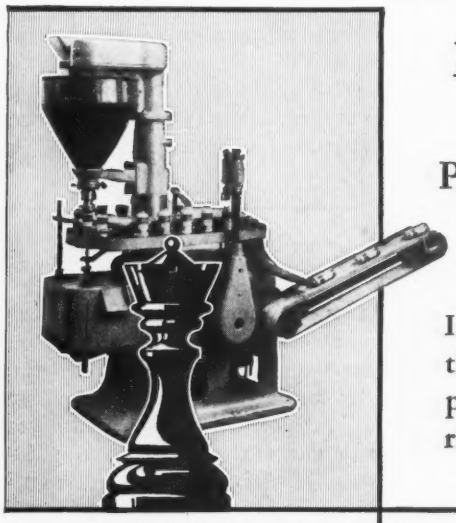
Mark of guarantee, of origin, repression of fraud, in connection with orange products should be the first thing to strive for. Practical bases for other products should follow.

In waiting for all of this to be realized, the growers, who have created at a great cost in money and effort plantations of perfume-flower plants, should react to the situation with energy, without becoming irrational about it. And if, as it is hoped, the perfume-flower plants should in the future provide us with a large part of our revenue, it will not be necessary to ask them to furnish all of it.

It is only in dividing the risks, by creating other cultures aside of those in the perfume-flower plant categories (and our climate permits us to encourage the establishment of other cultures) that we will arrive at an amelioration of the crisis that is endangering our region.

That is the only salvation, and let the hard lesson we are passing through serve to lighten the future.

THIS IS THE RIGHT MOVE



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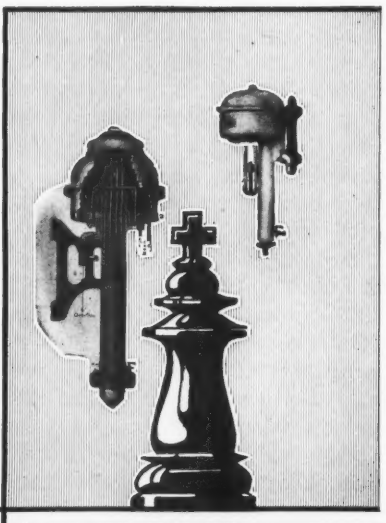
In the game of chess, the right move depends on using the right piece at the right time.



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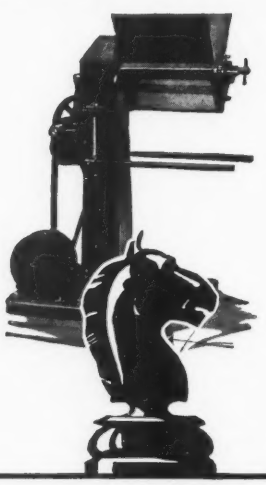

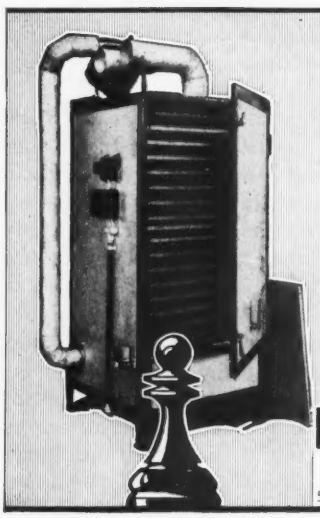

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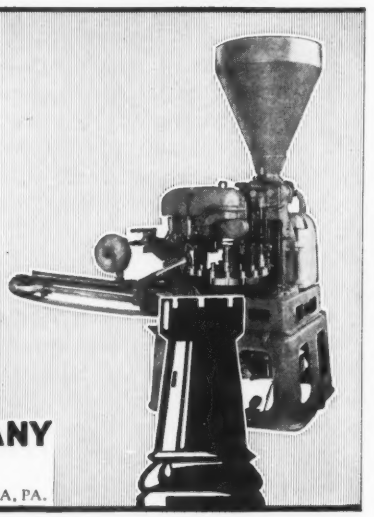

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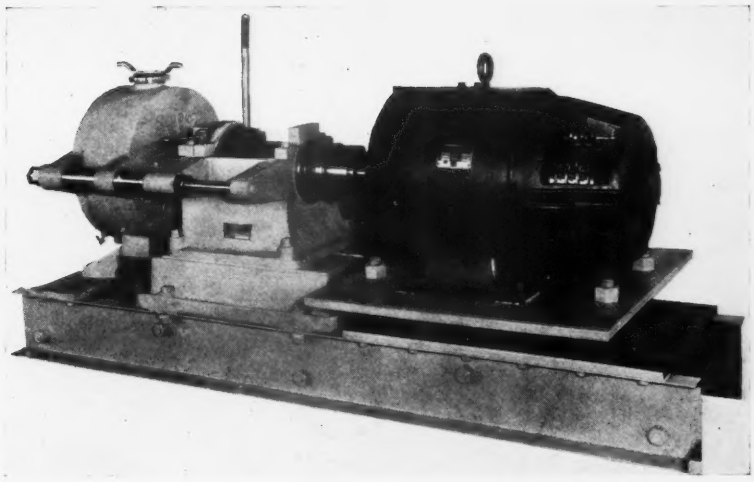

Colloid mill with capacity of 30,000 pounds of tooth paste per day.

The Manufacture of Tooth Paste

By Francis Chilson

PERHAPS no commodity in the entire pharmaceutical field is so widely used as tooth paste. It has been said that a new tooth paste cannot make the grade unless it is supported by an enormous advertising appropriation. Perhaps this is true. But whether true or not, the reputation of the well-known widely advertised pastes has created the impression that aside from these, little business is done by other brands. This is a fallacy. Literally there are several hundred little known brands of tooth paste on the market, which, taken collectively form a large part of the total paste tooth business if they do not actually comprise the major part of it.

Almost as various as the brands themselves are the methods and equipment employed in making tooth paste. The writer has seen many different brands made; he has yet to see two procedures exactly alike or hear of any common agreement respecting the best method. Although we have come to regard the filling of tooth paste as highly mechanized and standardized there are differences of opinion even here. It is not the intention of this paper to presume to suggest a best method, nor even to suggest a radical departure. It is our purpose rather to survey the field, pointing what our experience has shown to be practical and economical both in method and equipment.

Most tooth pastes are true pastes in that some form of inert material form their base, although there are types which verge very closely on soft soap and, in which, detergent action is secured more from a pure soap base than from the polishing action of inert materials.

Of the materials generally used the following are most important: Precipitated chalk, calcium sulfate and calcium phosfate mixture, pulverized castile soap, colloidal clay, citrate of soda, potassium chlorate, bicarbonate of soda, powdered sugar, orris root, saccharin, salt, tri-calcium phosphate, glycerine, gum tragacanth, alcohol, magnesium carbonate, sodium benzoate, borax, salicylic acid, rice starch, distilled water, etc., etc. Flavoring materials: oil of spearmint, peppermint, wintergreen, sassafras, cinnamon, anise, cloves, etc. These chemicals are also used: menthol, thymol, eucalyptol, etc. And also the following prepared flavors: Vanilla, raspberry, lemon, orange, pineapple, maple, etc.

Several of the most widely used polishing materials are marketed under well-known trade names.

In order to show the proportions in which these materials are usually blended, the following formulae are given. It might be mentioned in passing that these are not type formulae; they are the formulae of three successful pastes.

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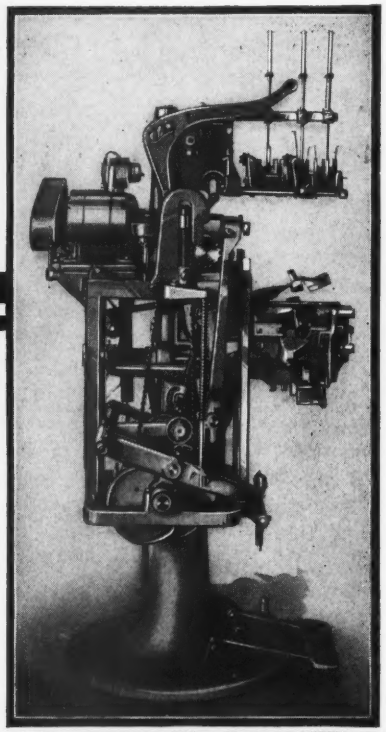

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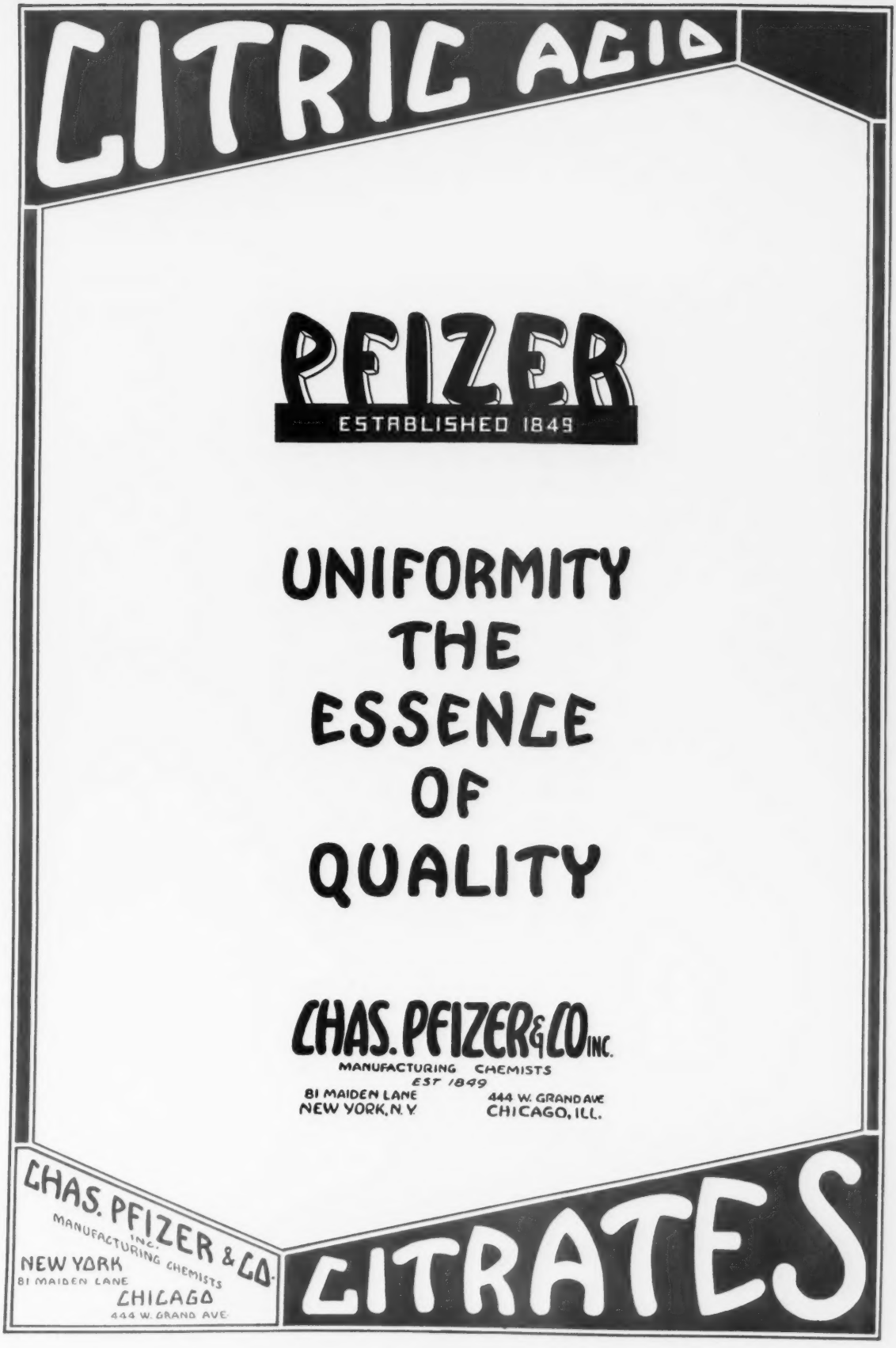
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Benzyl Alcohol	Methyl Benzoate
Benzyl Benzoate	Methyl Cinnamate
Bigarol	Methyl Eugenol
Citral	Methyl Ionone
Citronellyl Acetate	Methyl Iso Eugenol
Citronellol	Methyl Para Cresol
Dimethylacetophenone	Methyl Phenyl Acetate
Ethyl Benzoate	Oleo Resins
Ethyl Phenyl Acetate	Para Cresol Acetate
Eugenol	Paracresolphenylacetate
Geraniol	Phenyl Acetic Acid
Hydroxycitronellal	Phenyl Ethyl Acetate
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A type of odor that is proving extremely popular with American women. It is heavy but fragrant. It lasts a long time without changing character. At the same time it is a modern and striking perfume for refined tastes.

Frankly, we are proud to sponsor this oil and to present it to American perfumers. Sharima is at its best in perfume, toilet water and powder. A modified version—for cream—is also available.

In several grades: $14 $24 $36 $48 per pound.

Send for samples

van Ameringen-Haebler, Inc.

Manufacturers and Importers of

Aromatic Essentials

Flavor Materials, Aromatic Chemicals
Essential Oils, Perfume Specialties

315 FOURTH AVENUE, NEW YORK

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Factory, Elizabeth, N. J.

A spir-gran

The first free-flowing, crystalline form of Acetyl Salicylic Acid. » » » Ready to mix with starch and lubricant and feed into the machine. » » » Approved and improved for tablet making since 1923.

CHEMICALS OF QUALITY
MONSANTO
ST LOUIS U.S.A.

A BACKGROUND OF 30 YEARS OF MANUFACTURING—

Monsanto Chemicals

include a full line of Salicylates

manufactured by

Monsanto Chemical Works
ST. LOUIS, U.S.A.

10 East 40th St. NEW YORK
Everett Station BOSTON
300 No. Dearborn CHICAGO
873 Brannan St. SAN FRANCISCO
Victoria Station House, Victoria St. LONDON S.W. 1

No. 1

250	lbs.	High quality powdered soap material.
225	lbs.	Fine inert polishing.
27	gals.	Grain alcohol.
25	gals.	Glycerine.
30	lbs.	Benzoic acid.
3¼	gals.	Peppermint oil.
2¼	gals.	Eucalyptol.
2½	lbs.	Thymol.
2½	lbs.	Saccharine.

No. 2

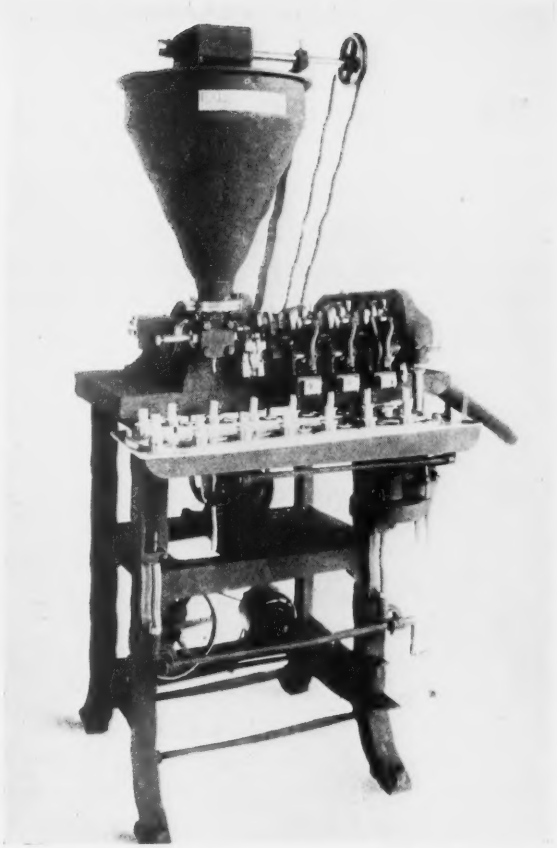
88	lbs.	Tri-calcium phosfate.
88	lbs.	Fine inert polishing material.
53	lbs.	High quality powdered soap.
4	lbs.	Gum tragacanth.
4	gals.	Glycerine.
3	gals.	Water distilled.
4	pts.	Sweet birch.
8	ozs.	Thymol.
8	ozs.	Menthol.
1	ozs.	Saccharine.

No. 3

65	lbs.	Glycerine.
20	lbs.	High quality powdered soap.
65	lbs.	Potassium chlorate.
5	ozs.	Saccharine.
30	lbs.	Distilled water.
85	lbs.	Fine inert polishing material.
8	ozs.	Menthol.
1	lb.	Eucalyptol.
2	lbs.	Wintergreen oil.
1	lb.	Oil cloves.
2	lbs.	Oil peppermint.

It will be seen from the foregoing formulae that soap and an inert polishing material form the base; a group of chemicals are added for the purpose of attacking tartar formations or neutralizing acidity; a third group is designed, with the soap, to form a cohesive medium to carry the solids; and the final group, which functions as flavoring material and also as healing or antiseptic agent. The type of tooth paste most likely to be effective and satisfying to the public is a chemical -advertising-selling problem about which there is no common agreement. It might be mentioned in passing that whatever formula is used, there should be present in the finished product approximately 2% of a free fatty acid to minimize change in consistency due to temperature changes. This is vitally important in view of the fact that the aperature in collapsible tubes is necessarily so small that a slight hardening will require the user to squeeze the tube so firmly that it may burst.

One of the reasons for changes in the consistency of tooth pastes is caused by slight variations in the materials used, due to lack of proper laboratory control. Many pastes are made by "old timers" who use their own judgment as to when the paste is of the right consistency, adding or eliminating dry inert materials until the paste is "right." Often a difference in the consistency of tooth paste during manufacture is caused by weather conditions, the use of new types of equipment, and possibly, a chemical change in the materials themselves. Old timers often are permitted to modify a new formula, which has been developed under the ideal conditions of the research laboratory. Large scale handling methods often compel changes in a new formula, but the changes should be made under the supervision of the research chemist, who ought not to consider his research work ended until he has personally directed the compounding of the first few batches that are made in the factory.



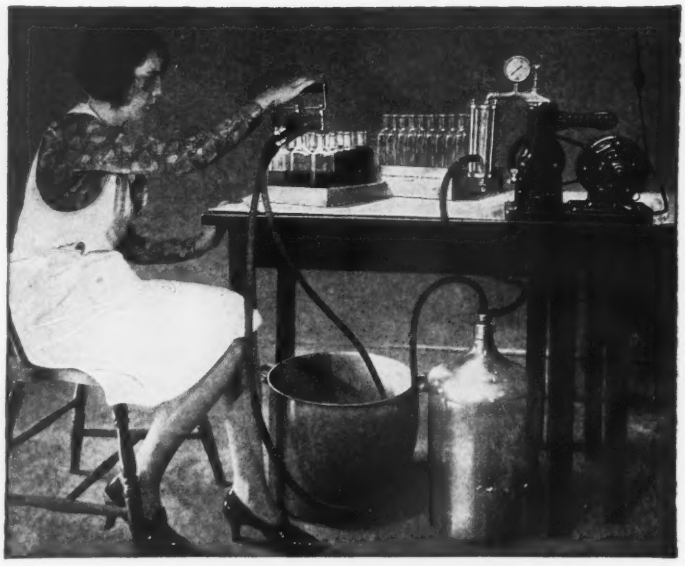
Modern tube filling and closing Machine

The manufacture of the paste is usually divided into two major phases: the preparation of the materials and the actual mixing. All the dry materials must be sifted to remove small lumps and foreign matter. All dry materials: soap, polishing materials, chemicals, etc. should be purchased by mesh—200 minimum being desirable. If tests show that the materials conform to the mesh required, it is not necessary to sift them through very fine bolting cloth as is the common practice, because the finer the mesh of the bolting cloth, the slower will the sifting operation be. Moreover, fine sifting is unnecessary when

FOR MODERN LIQUID PROCESSING

Hy-Speed VACUUM BOTTLE FILLER

FEATURES: Fills all size bottles to exact predetermined level . . . Rejects imperfect bottles . . . Portable ...Operates from light-socket ...No installation expense... Cleans quickly, automatically . . . Simple to operate.



The simplicity of this machine is apparent at a glance. Liquids do not touch any valves, floats, or moving parts.

THIS modern method of filling bottles was first introduced to the bottling trade by the Portable "Hy-Speed" Vacuum Electric Bottle Filler.

Its immediate adoption by leading drug and perfume manufacturers revolutionized industrial filling methods. For the first time it made possible the use of efficient, cost-reducing equipment for filling relatively small orders of many different products.

The "Hy-Speed" Bottle Filler is ready to operate in five seconds . . . is adjusted to bottles of any size in 30 seconds . . . it cleans itself for use with different liquids in 60 seconds. This performance is of definite value in any plant, and is an absolute necessity where many different items are produced, and the batches must be filled as processing is completed.

"Hy-Speed" Portable Vacuum Electric Bottle - Filler

The approximate filling speed is 600 quart, 1000 pint, 1500 half-pint, and 3000 ounce bottles per hour. This depends to some extent on the liquid used and the speed of the operator.

REJECTS IMPERFECT BOTTLES

Imperfect bottles with the slightest pinhole or crack are rejected instantly. This valuable feature prevents waste of liquid and imperfect shipments.

Some concerns use one "Hy-Speed" machine to turn out daily orders for over thirty-five different products . . . others have found that the largest output can be handled more economically under perfect control when a number of these machines are used.

Concentration on one model which has proved satisfactory in hundreds of plants makes possible a first cost that is unusually low. There is practically no upkeep cost.

Approximately 1000 of these machines are in daily operation all over the world.

In ordering be sure to give type of electricity.

ALSOP ENGINEERING CO.

This is a page reprinted from the new, profusely illustrated ALSOP manual of liquid processing methods.

39 West 60th Street — Write for your copy today. — New York City

the paste is milled afterward. Hence there seems to be no practical reason for using a finer cloth than fifty mesh. A variety of sifters are used: gyrating riddles, vibrating screens, bolting reels; and now the development of the centrifugal sifter seems to offer an extremely high speed method for large scale operation. Sometimes the dry materials are mixed together and added to the excipient and sometimes they are added individually.

The flavoring materials and sweetening are usually mixed with the alcohol to form a flavoring essence which is then added to the excipient. The excipient itself: glycerine and water, may be used hot or cold, but most manufacturers prefer to heat it. In any event when starch is used in the formulae, the glycerine must be heated and the starch added to form glycerite of starch. Some manufacturers heat the water and the glycerine and then add the soap, stirring until dissolved.

Whatever the method of compounding followed, the mixing itself is generally carried out in a pony mixer, although other forms of mixing apparatus can, and are being used. Tilting mass mixers are widely employed, particularly for the heavier pastes. Colloid mills have been successfully used and produce a fine product which requires no further refining. Such mills have not been as frequently employed as they might be, for the reason that an erroneous impression exists as to their cost. Large ones do run into considerable money; but for the majority of manufacturers the so-called laboratory type has ample capacity and is relatively inexpensive. Excellent results have been obtained also with cage mills or pulverizers. Pulverizers give the product a terrific beating and produce a very fine paste entirely free from grit. Certain types of pulverizers are open to objection on the score that they beat air into the product which must afterward be removed by milling. But whether colloid mills or pulverizers are used, both require a mixer to give the paste a preliminary mix.

The elimination of air from the finished product is necessary in order to obviate difficulties in filling and to avoid a too fluffy appearance of the finished paste. The incorporation of air in the batch while mixing can be safeguarded against to a certain extent by the use of flat paddle agitators pitched at an angle to prevent the violent breaking of the rotating wave. A flat paddle, interacting, tilting mixer has been developed by one of the leading houses to overcome mixing problems. This mixer has the advantage of being steam jacketed; and connections may be made on it for water cooling.

In every case where a mixer of any kind is used the common practise is to mill the paste afterwards. This accomplishes two objects: the removal of imprisoned air and the refining of the paste to eliminate grittiness. The mills usually employed are the old fashioned ointment mill or the three roll refining mill.

Some manufacturers fill their paste directly after mixing; others allow it to stand overnight. This depends upon the formulae and also upon the type of mixing device employed. The writer has seen pastes which appeared very watery directly after milling, but which attained proper consistency after standing for a few hours. The same pastes would however have attained their proper consistency in the tubes, but there might have been a danger of smearing in the filling operation caused by dripping.

Although a variety of splendid automatic tube fillers have been devised one large manufacturer still, employs a home-made apparatus on the theory that it is faster. In this device the tubes are filled in gangs, that is, a dozen at a time. The tubes come from the maker in special trays which are fed to the filler by a girl just as they are received. An elevating table raises the tray of tubes so that the filling nozzles go down into them. The action of the filling mechanism is somewhat like that of a candy depositor. While the actual filling may be faster than by the individual tube method, its advantages are minimized afterward by difficulties in closing. Further difficulties are encountered because of the problem of holding the tubes lined up exactly so that the filling nozzles will go down into them without bedding over their edges. It would be interesting to have the per hour output of this machine averaged over a long period of time. From the difficulties continually encountered it would be very remarkable indeed if production were actually in excess of that obtained on standard equipment.

Automatic tube fillers should be employed when the variety of tubes is not excessive even though production is not great enough to keep them occupied continually. Many manufacturers hesitate about purchasing an automatic tube filler because of its initial cost. They prefer to carry on in the old way despite the fact that the difference in the per tube cost would pay for the automatic filler in a comparatively short time.

At this point it seems advisable to discuss tube filling by the semi-automatic method to illustrate its difficulties. A medium sized business will require a tube filler, a closer and a clipping device. The set up requires from three to four girls and the day's output depends, not upon the equipment, but upon the girls, who can set their own tempo, stopping the equipment on the slightest provocation. It requires considerable time for the team to get sufficient experience so that production is kept flowing at a reasonable rate. And whenever one of the girls is out through illness or for any other reason, the team is crippled because the substitute invariably is clumsy, even though she may have had previous experience. There is a certain rhythm in the movements of filling and closing tubes and it can be acquired and maintained only by girls working continually at it.

The girl operating the filler may be careless or the product may drip with the consequence that the nozzle gets smeared and the machine has to be

No. 2 Rotary Tablet Machine

New and Improved!

We have no yearly models—but improvements and refinements are being constantly added to Colton machines.

There are over five hundred Colton Rotaries in use.

Superior design, sturdy construction and ease in operation have made this possible.

The No. 2 Rotary Tablet Machine has such desirable features as *positive pressure*, eliminating varying thicknesses of tablets; *hardened steel gear drive*, eliminating frequent replacement of worms used on other makes, and *sliding upper punch holders*, to hold the punches rigidly, enabling the manufacture of special shaped tablets most satisfactorily.

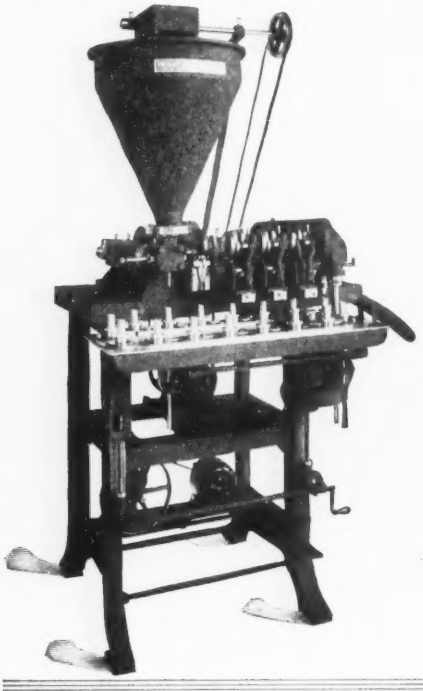
Write for Catalogs.

ARTHUR COLTON COMPANY

2620 East Jefferson Ave.

Detroit, Michigan

Save and Be Safe With the *Kiefer Clipless Closure*



Clips are no longer necessary. That fact is recognized and admitted since the introduction of the Kiefer Clipless Closure.

No clip troubles!

No clip expense!

The Kiefer Clipless Closure (patented) seals your tubes with a *tight* handsome closure. Compare it with any other closure. The Kiefer closure will hold. It can be used with confidence.

Longer Tubes are Not Needed for the Kiefer Clipless Closure

Remember this when you decide to save thousands of dollars by eliminating clips. Don't offset that saving by using a closure that requires longer tubes.

The Kiefer Tube Filler and Closer uses our "Impacta" method of filling (patented). Fills your tubes solidly, free from air bubbles, cleanly. No wiping of tubes.

Write for sample tube and full information

The Karl Kiefer Machine Company

Cincinnati, Ohio

stopped frequently for cleaning. She may jam the edges of the tubes in putting them on the filling nozzle and hence, be forced to stop the machine to straighten them. She may not push the tube all the way home on the filling nozzle so that the tube is not full enough toward the top and too full down at the bottom where the paste will interfere with closing.

Mechanical difficulties are sometimes encountered in closing and clipping. The abrupt starting and stopping of the table is apt to turn the tubes so that the closure is crooked; and it may also pitch the clip forward so that it projects over the end of the closure.

Semi-automatic tube filling generally is inefficient even though the girls are well trained and the layout of the various units designed to facilitate production. About as efficient a layout as is possible under the circumstances is effected as follows:

Two very low tables are placed in front of the filler one on each side of the operator, low enough so that the top of the boxes in which the tubes are received is slightly below her lap. Next to this is the closing and clipping machine; or, if separate units are used, the closing machine and then the clipping machine. The filling operator picks the empty tube up, and without shifting it to the other hand as is so commonly done, places it on the filling nozzle. She removes it with the left hand and drops it into an eggness designed to hold it upright. The closing operator picks the filled tube up, closes it and drops it on another small table, from which it is picked up by another operator and clipped. When a combination closer and clipper is used it is very difficult to secure straight line left to right, or right to left operation because the girl who places the tubes in the holders must sit in front of the machine and the girl who puts on the clips in back.

When the paste is stiff enough not to run, another filling procedure is employed. One operator removes the empty tubes from the boxes in which received and places them carefully on a conveyor. The filling operator picks them up, fills them and places the filled tube on the conveyor, which then carries it to the closing and clipping machines.

With a semi-automatic set-up, requiring three or four operators—invariably four—it is, extremely difficult to produce more than twenty-five completed tubes per minute even under ideal conditions. With an automatic it is possible without any difficulty at all to produce twice this amount with one operator.

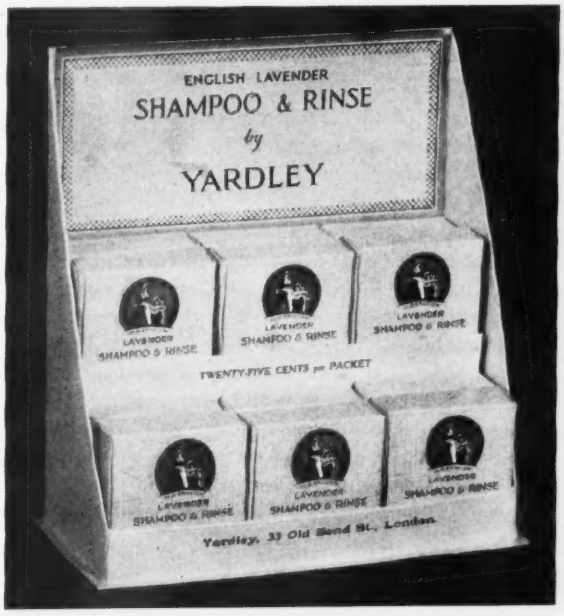
Unfortunately automatic tube fillers do not lend themselves to a variety of sizes. But the benefits to be obtained from their use will make it economical for the small manufacturer to standardize his tube sizes and use only one. This may not always be practical but there are innumerable instances where the differences in tube sizes are very slight.

Finally a word as to the tubes themselves. If the paste is heavy the opening in the tube should be large enough so that the product can be expressed readily. This is specially important if the tube is large. A large tube is squeezed more often than a small one because its contents last longer; consequently there is greater danger of bursting. This danger is emphasized in winter when, regardless of precautions, pastes become chilled and, hence, slightly stiffer.

The design of the chip-board in which the tubes are received from the maker should be studied carefully so that the tubes can be got out quickly. One good method is to insist that the nest be in two sections, the upper of which can be removed to facilitate handling the tubes while feeding the filling machine.

Variations in the amount of enamel applied to tubes will cause them to stick slightly in the sockets of the filler if slightly oversized; or if undersized, may permit them to turn enough so that closing is crooked. This condition can be controlled by the tube maker. Sometimes variations are encountered in the actual fill, a condition arising from the use of tubes from two different makers at the same time and caused by the failure of one or the other of them to adhere rigidly to specifications. The efficiency of the filling operation depends upon the use of uniform tubes as well as upon uniformity of product.

A New One



Yardley of London is introducing a new lavender shampoo and rinse to retail at 25 cents, each package containing sufficient material for a complete shampoo. Package No. 1 contains lavender shampoo powder in a glazed paper envelope. Another glazed packet contains the rinse powder. Both envelopes fold into an outer container as shown above.

"It
(machine bundling)
saves money!"

ASK any of the executives responsible for the success of these products why their companies adopted machine bundling, and they will tell you "Because it saves money!"

This is one of the quickest ways to make a saving that we know of. The moment you adopt machine bundling, you lop 40% to 60% off your cost of packing material—inexpensive kraft paper replaces high-cost boxes.

Add to that a labor saving of from $2,000 to $5,000 for each machine—and a saving in freight costs because the paper wrapping is so much lighter than cardboard boxes.

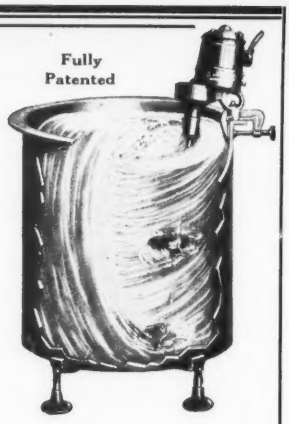
Send us your Product

Machine bundling is suitable for a wide variety of products. Send us a dozen of your packages, and we will show you how our machine would bundle them.

PACKAGE MACHINERY COMPANY
Springfield, Massachusetts
New York Chicago Los Angeles
London: Baker Perkins, Ltd.

LIGHTNIN PORTABLE MIXERS

Fully Patented



FOR MIXING LIQUIDS in ANY SIZE TANK

MIXING liquids thoroughly, quickly and economically is an important process in the making of your product! That is why LIGHTNIN mixers become daily more important to you and to your field. The "double action" illustrated here is the reason for LIGHTNIN thoroughness; LIGHTNIN speed; LIGHTNIN economy in time and labor saving. And there is a LIGHTNIN with just the size . . . power . . . and capacity you require.

MIXING EQUIPMENT CO., Inc.
Originators and Largest Manufacturers of Portable Electric Mixers
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Rochester, New York NEW YORK CITY

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Trade Mark Reg. Patents Pending

Airtight . . .
Leakproof . .
Tamperproof .

A transparent film sealed to top of container
Plus our continuous thread screw cap
Film must be removed to reach contents
Used with standard C. T. bottles and jars
Automatic application . . . no decrease in output
Adapted to large scale production
One of our films will serve your purpose

FERDINAND GUTMANN & CO.
Bush Terminal No. 19 · Brooklyn, N. Y.
SANISEAL METAL MILK CAPS . . . DISTILLED WATER CAPS
CROWN CORKS
CONTINUOUS THREAD CAPS . . . SPECIAL PURPOSE CAPS
Closure Specialists Since 1890

The Packaging Exposition

A novel and constructive idea, enthusiastically received at its first showing, and one which promises much for the future of the packaging industries.

ONE of the most significant developments in packaging in recent years was the Packaging Conference, Clinic and Exposition held under the auspices of the American Management Association at the Hotel Pennsylvania from May nineteenth to May twenty-first. This was the first of the Clinics which are to be held annually hereafter.

The affair was divided into three parts: a display of container materials and wrappings, a series of talks by well-known men, each talk followed by questions from the floor, and a package clinic in which the packages of many well-known firms were examined and criticised constructively.

The exposition phase was unimportant because the displays were by no means representative of the wide field of packaging. Only a very few of the different kinds of packaging materials were represented and very little machinery.

The conferences or talks on packages were excellent, but also one sided, in that every phase of packaging was discussed, excepting the production phase, which, despite its omission, kept cropping out in the addresses of the several speakers. The discussions showed the extraordinary lengths to which sales, advertising men and artists will go to fit the package to the consumer's needs and her storage space; but nothing adequate was mentioned about fitting the package to the factory or to the production budget. As a matter of fact, two of the speakers mentioned a line that was regarded as a triumph in repackaging; it would have interested them had they known that the line in question almost went bankrupt from the change because of high production costs, and that excessive costs finally forced another change in design to a more practical one. What a change to a sensible and yet attractive package can do for a company was strikingly emphasized by Arthur S. Ogle, Assistant Marketing Director of Bauer & Black, in his discussion of the change, which his company recently made, and with which we are all familiar.

To change all the packages of the Bauer & Black Company required an investment of seventy-five thousand dollars. But the consequent reduction in operating costs has been *seventy-five thousand dollars annually!* Every established firm that would like to change its packages and is hesitating because they fear the reaction of the public, please check and double check the italics. The family idea has been carried out in this line; its packages are eminently practical from a production standpoint.

In every case mentioned where a well planned and *practical* change was made by a company, the resulting increase in business justified the investment, which invariably was repaid in a short time through decreased operating costs.

The package clinics were superb! Packages were sent in for criticism by various companies, which also sent representatives to present the reasons for the change and to explain the considerations that dictated the selection of a particular package, design, or color. General criticism from the floor was given enthusiastically; and expert opinions were rendered by such well known package and merchandise experts as: Arthur S. Allen, Color Engineer; Ben Nash, Product Development Engineer; Henry Dreyfuss, Industrial Designer; Professor Lucian Bernhard, Mary Brooks Picken, Alon Bement, Director of the Art Center; D. B. Hassinger, Merchandising Specialist; Richard F. Bach, Director of Industrial Relations, the Metropolitan Museum of Art. The companies whose packages were sent in certainly got a lot of expert criticism for nothing, and every person present at the clinics must have had their ideas of the function and design of a package broadened considerably.

Certain things, however, were not treated even though they are of the utmost importance:

First: No mention was made of the danger of designing a bizarre or unusual shape of package—one which is radically different from the general shapes to which the public is accustomed.

Second: No mention was made of the interest a salesmanager should take in the chemical research

(Continued from page 623)

• U. S. INDUSTRIAL CHEMICAL CO. INC., A SUBSIDIARY •

U. S. INDUSTRIAL ALCOHOL CO., A SUBSIDIARY OF U. S. INDUSTRIAL ALCOHOL CO.

U. S. INDUSTRIAL CHEMICAL CO. INC., A SUBSIDIARY OF U. S. INDUSTRIAL ALCOHOL CO.

U. S. I. A.'s Service to Industry . . .

MANUFACTURING RESEARCH

RECORDS of the U. S. Industrial Alcohol Co. *for the past decade illustrate many instances* where its broad research facilities have rendered a definite service to American industry.

In the study of the preparation of lacquer, U. S. I. A. chemists uncovered data enabling many manufacturers to market a satisfactory product without development delays.

Production of artificial leather was curtailed until a solvent free from impurities and disagreeable odors was developed.

Our chemists perfected a collodion of special qualities to meet the requirements for a high-grade nail polish.

Again, the application of Ethylene gas for ripening fruit opened a more profitable market for truck gardeners.

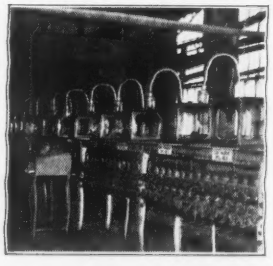
Hardly a day passes without some new contribution from U. S. I. A. chemists to the scientific knowledge of modern industry. A corps of forty engineers and chemists, a group of research laboratories, and an experimental manufacturing production plant are maintained for the benefit of American business.

These resources and facilities are available to any manufacturer. Perhaps there is a product in your line with a tremendously large potential—that for some practical reason has not been fully developed. Probably a new process, a new formula, a new study would overcome existing barriers.

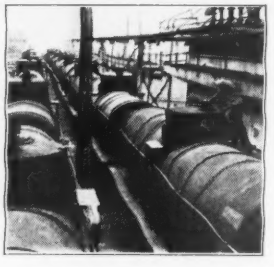
We would welcome the opportunity of discussing your manufacturing schedule with the view of offering constructive suggestions to stimulate new profits and markets. U. S. Industrial Alcohol Co., 60 East 42nd Street, New York, N. Y.

Cutting sugar cane in Cuba...the source of molasses.

Each "house" tank holds enough molasses for three days' *supply.*



Largest assembly of alcohol tail boxes in the world.



Over 400 company-owned tank cars are in circulation.

28 CONVENIENT DISTRIBUTION POINTS

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Atlanta, Ga.; Baltimore, Md.; Boston, Mass.; Buffalo, N. Y.; Chicago, Ill.; Cincinnati, O.; Cleveland, O.; Dallas, Tex.; Detroit, Mich.; Indianapolis, Ind.; Kansas City, Mo.; Los Angeles, Cal.; Memphis, Tenn.; New York, N. Y.; New Orleans, La.; Philadelphia, Pa.; Pittsburgh, Pa.; Portland, Ore.; St. Louis, Mo.; St. Paul, Minn.; San Francisco, Cal.; Seattle, Wash.

U. S. INDUSTRIAL ALCOHOL CO.

WORLD'S OLDEST AND LARGEST MANUFACTURER OF INDUSTRIAL ALCOHOL

All standard specially denatured alcohol formulae stocked at all warehouses

Makers of PYRO . . . the Standard Anti-freeze and general utility Denatured Alcohol

U. S. INDUSTRIAL ALCOHOL CO.

• U. S. INDUSTRIAL CHEMICAL CO. INC. •

For Plant Managers

By Francis Chilson

An Excellent Response

R. W. HOMPE of Strong Cobb, Inc., wrote us as follows in connection with the note on drug extraction published in last month's Column:

"I have read your article on page 483 of Drug Markets, May 1931 issue and was interested in the paragraph on "Speeding Up Drug Extraction." For a number of years we have been using a Buffalo Foundry & Machine Company Rotary Vacuum Dryer for mixing and percolating. The drugs are dumped in at the top, are mixed and dampened with the proper solvent and allowed to swell for the proper length of time. Then solvent is added at the top and allowed to percolate through the drug.

"The two doors at the bottom, ordinarily used for dumping the contents of the dryer are equipped with special screens and valves. Two hoses are run from these valves to a large storage tank at one side of the dryer. When the drug is exhausted the solvent is drained out thoroughly, the hoses disconnected, openings at the top and bottom fastened tightly, vacuum started and the solvent left in the drug is recovered.

"In this way the whole operation of mixing, percolating and recovery is done in one piece of equipment."

In writing this letter Mr. Hompe manifests a co-operative spirit, which at once demonstrates his progressiveness and shows a desire to do his part for the benefit of the entire trade. This willingness to share ideas is in happy contrast to the old fashioned secretiveness which has impeded the mechanical progress of the trade, and we hope Mr. Hompe's letter is the forerunner of many contributions to the Column on new ideas and innovations of interest to plant managers. We wish to express our appreciation to Mr. Hompe. If we may hazard a guess, his letter indicates that he very proudly has more new ideas up his sleeve that we would all like to hear about.

More Notes on Developing the Non-counterfeitable Package

Last month in this column we made some suggestions for the development of a package that could not be counterfeited. The limitation of the paper suggested for this purpose is that it can be duplicated, although duplication would be an expensive process. Another limitation is that this type of paper is made by several manufacturers.

Since that time we have discovered another transparent paper, subject to none of the limitations above. This paper is transparent; it can be water-marked with a trade name or a manufacturer's name; it can be further protected by the addition of colored threads (which could, incidentally, be of a color to harmonize with the color of the package); it is a patented paper, made by only one manufacturer in the world; it cannot be duplicated because duplication would require the construction of a special mill with special equipment, and besides it is made by a secret process; and finally the manufacturer is very large, financially responsible, and would not dispose of any of the special paper to unauthorized purchasers.

Since this paper must be made up specially for each manufacturer, a large quantity must be contracted for in order to make a special run profitable. This run can then be cut into different sizes to fit the requirements of a variety of packages. The cost of the paper is not excessive.

This special paper can be printed on, hence, one of the practical ways to use it would be as a direction label with the printing confined to the middle and a broad unprinted border exposed upon which the water-marking and the colored threads would stand out conspicuously. There are other innumerable ways of using it depending upon the package, among which is that of using it as an over-all wrapper. It is made by the Riegel Paper Corp.

A New Liquid Filler

F. J. Stokes Machine Co. has sent us an interesting photograph of their Multiplex Filling Machine, designed for filling liquids. It is a machine which heretofore has been used primarily for filling paints, liquid soaps, etc., into cans particularly. But it can be adapted to other products and other containers. It is a well designed, compact unit.

Seen at the Packaging Exposition

A semi-automatic, wrap around, can or bottle labeler built by the New Jersey Machine Corporation. It is very simply constructed, easy to operate and inexpensive. We saw at the same exposition an automatic tape sealing machine for corrugated and fibre board shipping cases, built by the Container Machinery Corporation. It can be adjusted for varying sizes of containers.

One of the things we liked best about the Packaging Exposition was the package clinic at which the packages of different manufacturers were criticised. In every case the criticism was constructive and many excellent suggestions were made.

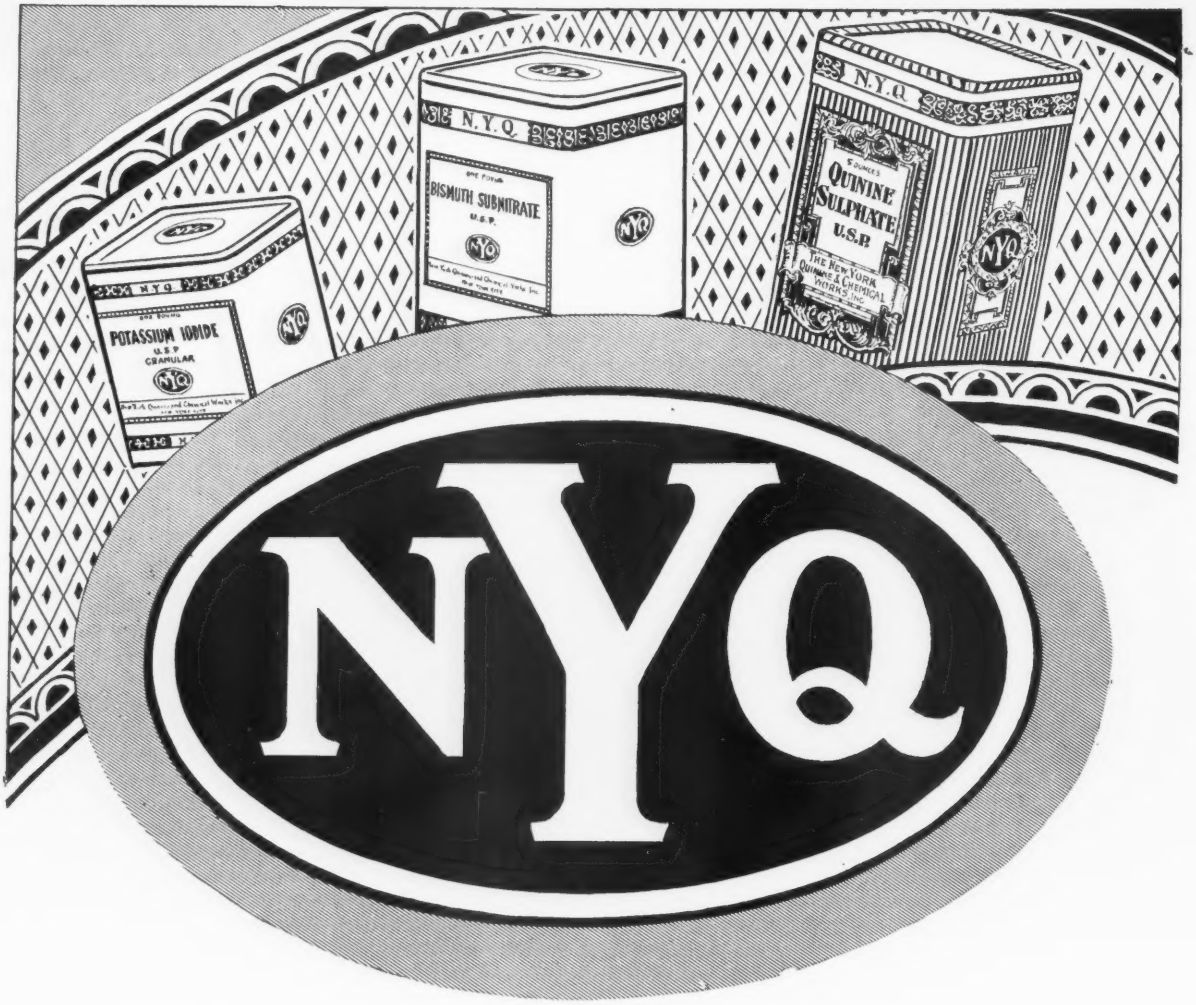
Spot Labeling Still A Troublesome Problem

When a bottle carries the makers name embossed on it, the embossing should continue around the entire bottle to eliminate labeling difficulties. Spot labeling devices have been developed for centering the label directly beneath the embossed name. But an examination of several products labeled in this manner proves that there is still more to be done before perfection is achieved. If the name continued around the bottle it wouldn't matter much whether the label were centered or not. But better still, leave the name off.

Making A Quick Specific Gravity Test

Sometimes plant men are confronted with the problem of cleaning dry materials and wish to know the relative specific

(*Continued on page 623*)



Acetanilid	Cinchonidine	Quinidine
Bismuth Subnitrate	Morphine Sulphate	Thymol
Bismuth Subcarbonate	Ethyl Morphine	Salicylates
Cinchonine	Iodoform	Strychnine
Cinchona Alkaloids	Glycerophosphates	Bromide of Soda
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Menthol at Low Point

The lowest price in thirteen years makes buyers wonder if bottom has been reached.

INTEREST centers in the future of menthol mainly because its price has struck a new low level for many years. Today menthol is offered in Japan for shipment at $2.70 c. i. f., or at $3.20 duty paid. Predictions are made that the price will sink to $2.40 c. i. f., or $2.90 duty paid. The spot market in this country has reacted downward to such a point that records must be searched back to the first half of 1918 to find a price as low as the present market levels. In the forepart of 1918, menthol sold spot New York at $3.30 per pound, a price that is even reported to have been matched in the present market which is generally quoted at $3.40 to $3.50 per pound. During the depression of late 1920 and 1921 the price did not sink below $3.75 per pound spot.

The fact of the matter is that the same condition exists in menthol as exists in most other items. There is a large new crop of peppermint oil facing the Japanese menthol producers, and the demand has diminished due to conditions the world over. Manufacturers in this country are not using the quantities of menthol that they have used in the past and the Japanese holders are now pressing for a market.

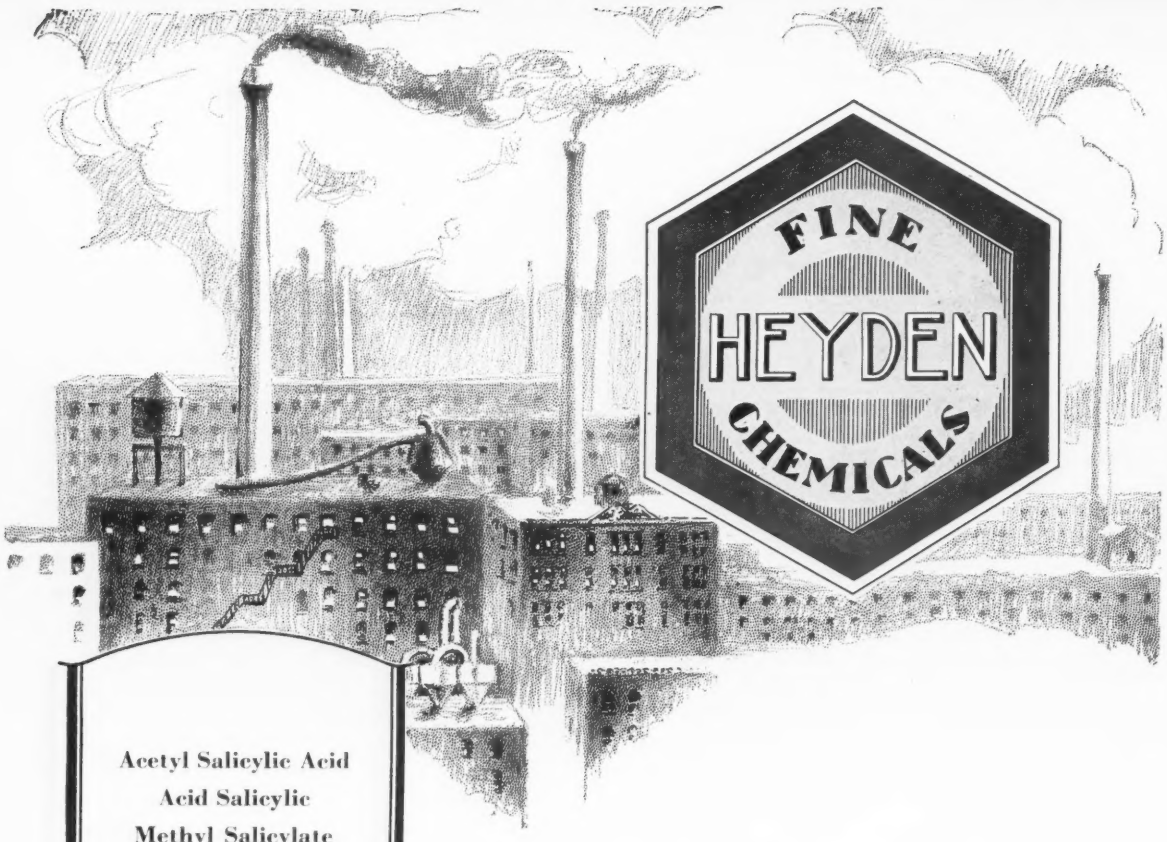
For a long time the Japanese holders of menthol had most of the supplies under their control and were asking higher prices than those in effect upon the spot in this country. But large importers here had previously bought large quantities in a recent decline and they continued to offer these goods at a fair margin of profit over what they had paid for them in complete disregard of the rise in the Japanese market. Even though stocks here were becoming somewhat depleted, importers could not believe that there were any facts upon which to base a firm future for the menthol market and their convictions have now been borne out.

Looking at the imports of 1930 and 1931 in comparison with the ten year record taken from Drug Markets Catalog and Directory, many facts become apparent.

Year	*Pounds*	*Value*
1931 (First 3 months)	119,345	$ 333,950
1930	307,715	1,016,075
1929	288,776	1,208,492
1928	242,566	873,804
1927	360,614	1,310,130
1926	451,681	2,808,205
1925	290,442	2,568,868
1924	194,641	1,735,273
1923	197,476	1,467,130
1922	182,287	880,238
1921	164,986	916,078
1920	205,911	1,564,982

The first thing that becomes apparent is that imports during the first quarter of 1931 were at a very high rate which would indicate total imports during the year of at least the quantity imported during 1930. Also during 1930 imports were in excess of the so-called boom years of 1929 and 1928. If we average the imports for the ten years, 1921 to 1930, we find that the apparent consumption of menthol for that period is 268,118 pounds per year. This gives an indication that imports of menthol during 1930 were about 15 per cent. in excess of consumption during an average year, and there is real reason to believe that 1930 was quite below average. It is therefore quite safe to assume that stocks in this country in consumers' and importers' hands are plentiful. In the face of these excess imports which were probably due to the decline in prices and the belief on the part of consumers and importers that the price would snap up again and the depression would not last longer than nine months or a year, still heavier imports were entered during the forepart of 1931 to further burden the market.

On the other side of the picture is Japan with the United States as her best customer happily being able to sell large lots each time the market broke to a new low level. Now Japan is faced with a market in this country quite well supplied, and large stocks of menthol in her own country with a new crop near at hand. Thus in menthol, as in most things, the paradoxial condition of a large crop meaning distress prevails. No recovery in menthol appears likely, but still there is always the possibility of speculators with cash taking advantage of a neglected market. In such cases, consumers and importers generally are too apt to take statistical factors as their sole basis for judging a market. Consumers' and traders gen-



Acetyl Salicylic Acid
Acid Salicylic
Methyl Salicylate
Sodium Salicylate
Minor Salicylates

Formaldehyde
Para Formaldehyde
Hexamethylene-
tetramine

Bromides
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erally are apt to let their stock become over-depleted. In such a condition a speculator with a surprisingly small amount of money can jump into a position of absolute control of the market price. This thing has recently happened in vanilla beans and ipecac root. It might easily happen in menthol. While menthol is low and may go lower, it can not stay at a price below the cost of production for any great length of time.

Agar Up in Japan

Agar agar has been advanced rather sharply in Japan. Sales of large quantities have reduced stocks there considerably. Production has also been below normal. The spot market, where demand has been good, reflected this situation and prices were marked up to the basis of from $1.15 to $1.20 per lb. for number 1, with number 2 selling at from $1.05 to $1.10 per lb. This was necessary to cover the increased cost of replacement.

Consul E. R. Dickover, Kobe, reports that the agar agar market there was active during the first quarter of 1931, exports amounting to 1,334 377 pounds valued at $852,000, as compared with 1,042,000 pounds valued at $754,000 during the corresponding period of 1930. This increase is accounted for by the fact that, during the between season period in September and October, there were no stocks on hand and consequently when the 1930-31 crop began to arrive at the end of December there was a well-developed demand. Typhoons in Shikoku and Kyushu in July and August of 1930 swept large quantities of the weed out to sea and weather conditions have not been favorable to drying during the early months of 1931. Prices, which were high in December, have fallen to relatively low levels and producers claim that the business is not remunerative at present quotations. December prices reached $125 per 100 kin (132.27 pounds) f.o.b Kobe, declined to $90 in April and later to current prices of about $85 per 100 kin.

Alcohol Dull

Alcohol is experiencing the dullness usually characteristic of the summer months. Distillers report price schedules being adhered to insofar as they are concerned with shipments going forward mainly on contracts written several months ago. New business is very scarce but this does not alarm the distillers as it is expected at this time of year. With jobbers and resellers, however, there is not such a strict adherence to a schedule of prices and it is reported that in some cases prices for completely denatured alcohol are below the price of the distillers. This condition applies mostly to small lot shipments which are handled by this trade. The dull market is expected to continue for the balance of the warm months.

Arnica flowers are easier in the spot market at 11c to 13½c per lb. It is reported that slightly better than 11c could be done on an order of fair size. The influence causing the weakness in this commodity is traced to the new crop expectations which are favorable to replacement both from the standpoint of quantity and price obtained in the European markets.

Rather keen competition has developed in aconite with the market being marked down 1c per lb. to the basis of from 13c to 14c. Buying has been in a small way with jobbing lots only being booked. Stocks seem more than ample to meet consuming needs.

Blood root is lower in the spot market with material being freely offered at from 12 c to 12½c per lb. according to quantity. This is due to the small demand here and the reports from the primary market concerning the new collection prospects.

Hawaiian Citric Acid

Citric acid has been reduced one cent per pound as the result of lower prices for the imported material. The market now stands at 36 cents for barrels. The market in this country is understood to be quite firm with strong hands holding such goods as are available. The large excess of raw material available in Europe with the depressed conditions have been solely responsible for the last two reductions in prices of domestic material.

It is stated that negotiations are virtually completed arranging for the importation into this country of goods produced in the Hawaiian Islands from pineapple juice. This acid is understood to be produced by the large canner of pineapple in Hawaii and will come into this country duty free since Hawaii is a United States possession. A large drug manufacturer will be sole sales agent for this acid when the deal is completed.

Arabic Still Lower

Gum arabic is offered in the spot market at from 9c to 9½c per lb. for amber sorts. The decline in the price of this commodity started back in January when the new crop began to arrive in the Sudan in large quantities and has continued uninterrupted throughout the entire collection period which is now drawing to a close. A further reduction of ½c per lb. was put into effect during the past month so that this product is now reported as being at a lower level than has ever before prevailed in its history. The various grades of bleached gum have also continued to decline with the white number one offered at from 30c to 31c per lb.

The basic cause of the weak market on this commodity is the exceptionally heavy production in the Sudan, together with the fact that the larger consuming markets have been slowed up by general business conditions. Both the weather and the labor situation had been exceptionally favorable throughout the entire collection season. The rainy season will shortly get under way and this will put an end to collection. Owing to the heavy night dews the quality of the gum gathered this season, although good, is not up to that of the shipments of the preceding year.

The exports of all descriptions from the Sudan during January-April 1931 amounted to 9,908 tons, an increase of 852 tons over the corresponding period of 1930. The imports to Great Britain were 2,584, tons or 649 tons more than in the corresponding period for 1930. The exports from the Sudan for this year of the bleached quality will amount to 150 tons, which is about equal to the exports for the previous year.

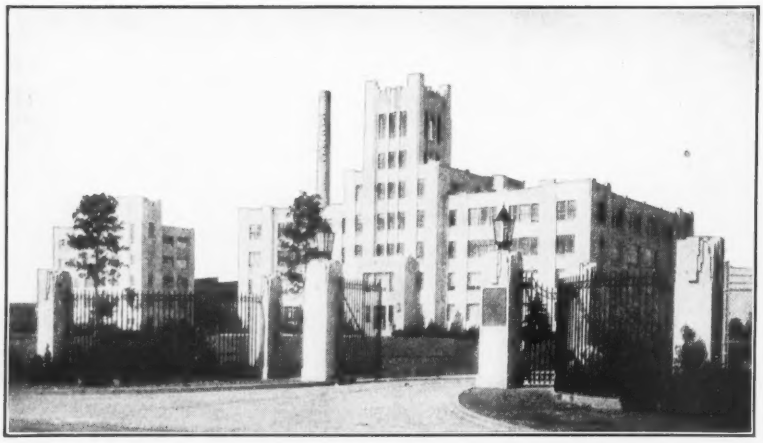
Oil wormwood is on a basis that is likely to show a declining market for future deliveries. The new crop is being offered at low levels and is being quoted for later delivery at from $6.75 to $7.00 per lb. Prime quality old crop oil is scarce and is being offered in 1 lb. bottles at $8.00 per lb

Hungarian chamomile flowers are still in small supply with dealers who have supplies reported as not particularly anxious to push the sale of them. Although it is possible to secure goods at from 20c to 22c per lb. it is believed that any spurt in activity will result in an immediate upturn in the market.

Keen competition continues in the local market for short buchu leaves. The spot market schedule of price is from 20c to 21c per lb. but it is rumored that on a fair sized order slightly better prices could be done. The market is dull with stocks ample to meet any increase in buying that may develop.

Although dried raspberries continue scarce in the spot market the lack of demand and the approach of a new crop has created an easier tendency in this commodity. Supplies can now be purchased at from 70c to 75c per lb. It is reported that further recessions are likely when new crop becomes available.

ROCHE



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Mercury Price Cut Sharply

Is the reduction by the monopoly the beginning of the end?

THE foreign mercury monopoly has at last reduced its price. The reduction is larger than was generally anticipated under the conditions of an orderly retreat. The recent import price of $126.50 per flask duty paid has been cut by £5, or approximately $25.00 per flask, making an import price duty paid of approximately $101.00 per flask. There are slight concessions from this figure for large lots.

The facts that have been pointed out by Drug Markets previously have brought about the reduction in price. Producing at an abnormally high rate the foreign monopoly, which controls the Spanish and Italian mines, are now reported to have mercury above the ground sufficient to supply the entire world for two whole years. Certainly not less than 150,000 flasks, and more likely 175,000 flasks of the metal are now in stock in the monopoly's hands ready for delivery. The extent to which the monopoly has suffered by this reduction in price may be realized by applying the reduction to the stocks of mercury on hand abroad. A reduction of £5 per flask on 150,000 flasks is a total reduction of £750,000, or approximately $3,750,000. Which is quite bad for the monopoly, but not as bad as the situation probably will reveal before the mercury market is again established upon a firm basis.

For it is the general opinion that this reduction will not be the last one in the present situation. It is the opinion that this reduction is merely the first of a series of reductions, and it really marks the beginning of the end of the control of the market by the monopoly. Further sharp price cuts probably will follow in perhaps three months, or perhaps six months—but they will come. The market can not be maintained at even the present levels if the monopoly is to attempt to maintain both prices and production rate at abnormally high levels.

In the meantime the domestic mercury producers have not varied their quotations very much due to the fact that their prices for some time have been in the neighborhood of $100, or about $25.00 below the price for import. When the reduction by the monopoly was first announced, the domestic producers became rather panicky and offered goods at prices scaling up to $3.00 per flask below the $100.00 mark. However, when it was realized that the foreign price had been stabilized at close to $100.00 per flask, the domestic holders became firmer in their quotations and just underquoted the foreign price by enough to obtain the business.

It is a foregone conclusion that if the domestic producers continue their past tactics of fighting among themselves for business when in fact the demand in this country is greater than the domestic production and it is necessary to import goods to make up the deficiency, the domestic market might easily sink $25.00 per flask further. But there is no reason to expect such a situation as a certainty. All that the domestic producers have to do to get all the business necessary to consume all their mercury is to underquote the foreign monopoly by a small margin.

But the fact of the matter is that most of the domestic mines are poorly financed and it is necessary that some of them dispose of mercury to meet expenses at times when the consumers are already well supplied. In such cases consumers will not take on the additional goods unless the price is extremely attractive. It is this condition of affairs that creates the condition of an insufficient supply selling sharply lower than the price of the goods that must make up the deficiency.

Because of the statistically weak situation in mercury abroad and the attending rumors of the recent reduction being the first one of several, the consumers can well afford to sit tight. Also the fact that in the past domestic producers have sold at prices sharply below the import quotations would seem to indicate that domestic mercury might readily decline somewhat even before such time as the foreign producers reduce their quotations further. From any angle, therefore, it would seem that drug manufacturers have no reason why they should buy ahead. However, there are likely to be minor dips and advances in the prices quoted for domestic material between such times as the foreign producers again break their prices, and buying in these slight recessions might prove advisable.

Just when the foreign monopoly agreement between the Spanish and the Italians will dissolve, if at all, is not being forecast. However, it is commonly agreed that under the present strained political conditions in both Spain and Italy, there is no reason why some

(Continued on page 621)

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Mexican Vanilla in Dispute

Varying opinions make market appear strong and weak.

THE Mexican vanilla bean market continues firm in price due mainly to large concentration of this year's crop in a few strong hands, but due also to the report that this year's crop of beans is no more than sufficient to supply the demand that will arise. There are some who deny this statement and who wonder just how all the Mexican beans that will be available are to find a market. In the meantime the market remains quiet with the holders of goods confident of their position, and consumers and other dealers waiting to see what will happen and buying rather cautiously.

The facts as presented by those of bearish opinions are that the crop this year is variously estimated at from 160,000 to 200,000 pounds. To be conservative by striking an average of the high and low estimates, these dealers prefer to place the production at 180,000 pounds. This production is, they state, some 30,000 to 40,000 pounds larger than last year's production. In the face of general conditions, these dealers fail to see how a firm market can be maintained for Mexican vanilla beans.

The holders of Mexican beans admit certain of the contentions of the bearish factors but still claim that the conclusions drawn from these figures are grossly in error. The bullish story runs this wise.

Granted that production of Mexican beans this year are 30,000 to 40,000 pounds in excess of last year—this is true. The verified estimate of the size of this year's crop is a minimum of 160,000 pounds, and a maximum of 170,000 pounds. The crop of last year did not exceed 130,000 pounds of whole beans. (Thus far the two stories check surprisingly well—Editors).

But the fact of the matter is, according to the bullish factors, that the size of the crop last year does not represent the consumption in this country. As a matter of fact, it is stated, last year's crop was the smallest in a great many years and it was necessary to dig into the reserves to supply the demand. These reserves consisted of carry-over in Mexico and stocks in the American market. It is stated that it is easy enough to prove total imports of 160,000 pounds during last year, but this quantity does not represent the size of the 1930 crop, but rather the size of the crop plus the carry-over from previous crops which was shipped here to make up the deficiency.

Therefore, according to this analysis, there came into this country during 1930 a crop of 130,000 pounds of beans, and 30,000 additional pounds which represented the total carry over in Mexico from previous crops. Thus the mexican market was depleted at the time of arrival of the new crop. To this figure of 160,000 pounds, the bullish factors also add 30,000 to 40,000 pounds of beans which they claim were in the American market at the time of the arrival of the 160,000 pounds which came from Mexico during the period of shipping the 1930 crop. Thus there is determined a figure of 190,000 to 200,000 pounds of beans as representing the actual consumption in this country during the past year for the reason that they state that there were not 5,000 pounds of beans available for free sale up to the arrival of goods from the new crop.

Facing such a situation with a crop of beans that can not possibly exceed 170,000 pounds, these factors see a real firm market which will gain in strength as goods pass into consumers' hands. These importers state that contrary to general belief, consumption of Mexican beans has not declined. Further, they state that only on rare occasions have the Mexicans produced beans largely in excess of the usual consuming needs of the world markets. This year, it is stated, the Mexicans had hoped to produce a crop of 200,000 to 210,000 pounds based on the appearance of the crop before picking and on the hope that the yield after curing would be high. The yield after curing of this year's goods proved to be some twenty per cent. less than was anticipated, it is stated, the actual yield being a trifle more than eight pounds per thousand beans, against a previous estimated yield of ten pounds per thousand beans.

At the present time the price of Mexican beans is somewhat below the prices in effect at this time a year ago and this has led some consumers to take on goods although the movement is not rapid.

Oil wormseed is easy in both the spot and primary markets. Both markets are dull and in need of buyers. Primary market indications point to a need for cash with producers there willing to make concessions to dispose of material. The spot market is from $2.75 to $3.00 per lb.

COMPLETE COPY OF THIS 4-PAGE ARTICLE FREE ON REQUEST

This article has been written at the suggestion of the United States Department of Commerce in the belief that the package developed has many advantages over those now used and that many other firms may wish to benefit by the experience

At left—Figure 1—Completed unit package and beside it wrapped bottle with the absorbent material cut away

New Method of Packing Liquids for Shipment in International Mails

By
L. H. WEBSTER
Export Manager, Smith, Kline & French Laboratories, Philadelphia

WHILE the bulk of the export trade of the United States moves by freight, parcel post has lately found an increasingly important place as an alternate method of shipment for certain classes of merchandise. In the case of Latin America, especially, freight transportation to interior cities is often both slow and expensive, although perfectly satisfactory to the various ports. On this account there has been an increasing pressure put upon exporters in the United States to ship by parcel post, not only those light, non-breakable articles for which parcel post transportation is eminently suited, but also heavier, often breakable articles, especially liquids in glass bottles.

Liquids in glass are of [illegible] capable of causing a [illegible] liquid there must be provided bran, sawdust, or other absorbent material in sufficent quantity to absorb all the liquid contents in the event of breakage."

Also, although these regulations do not specifically require it, the authorities usually suggest that one of the receptacles should be waterproof.

To comply with the above regulations meant an increased packing cost for labor, absorbent material and suitable containers, the weight of the completed package was usually excessive, and, worst of all, if a bottle leaked the liquid spread through all the absorbent material, with the result that every other package in the entire container was usually so soiled as to be unsalable. In case of a breakage, although there was enough absorbent material between the two containers, if the total amount [illegible] was considered, some of the liquid often leaked out [illegible] or corner of the package before the absorbent [illegible] a chance to pick it all up. Naturally it was [illegible] to a customer to receive a package i[illegible]

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Psyllium Market Holds

While spot psyllium seed continues in a firm position at 55c and 65c per pound, packers are buying only for immediate needs, and the main interest centers around the new crop which will start coming through in August and which is estimated at 2,100 metric tons—fifty per cent. greater than last year's crop.

A report from France to Drug Markets states that there not only are no goods from the old crop left, but also the new crop is now completely contracted for with traders. This means that there are no more goods that can be bought directly from the growers. Some buyers here are hesitant to contract with second hands in France for goods since several purchases for round lots were not delivered last year.

However there are offerings reported made by reliable shippers at approximately 18c per pound in lots of 100 tons. How long this condition will last is problematical and depends on the extent to which the new crop will be bought.

Glycerin Weakens Further

Chemically pure glycerin continues on the easy side with refiners reducing their price fractionally to 12c per lb. in drums. This revision in price was caused by the long period of inactivity on this item and the continued weakness in the crude material. The large producers of dynamite have not been operating fully so that refiners have been able to place their requirements at advantageous prices.

Although the market undertone is not particularly strong as the result of the reduction, it is reported that the price of 12c per lb. is so near the cost of production that there is very little likelihood that further declines will take place.

With the small demand in the spot market, exports have declined while imports are up sharply, so that stocks on hand here are of ample proportions. Exports of glycerin from the United States during the first quarter of 1931 aggregated 78,204 pounds, valued at $10,715, as against 115,911 pounds with a value of $16,988 in the same period of 1930.

During the 1931 first quarter general imports of crude glycerin amounted to 2,914,104 pounds, valued at $166,795, compared with 1,082,825 pounds, with a value of $66,403, in the corresponding period of 1930.

Imports of refined glycerin totaled 485,204 pounds, valued at $42,366, January to March, inclusive, 1931, against 318,178 pounds, valued at $31,797, in the January-March period, 1930.

Following table shows domestic production of glycerin during first quarter of 1931 compared with corresponding period of 1930:

	Crude 80% basis Pounds	*Dynamite Pounds*	*C. P. Pounds*
First Quarter 1931			
Production	35,187,818	10,351,595	18,306,203
Factory and warehouse stocks (March 31, 1901)	13,561,891	11,878,350	9,027,575
First Quarter 1930			
Production	35,889,973	12,267,135	17,992,868
Factory and warehouse stocks (March 31, 1930)	14,617,409	10,221,071	6,920,710

The market for cod liver oil continues firm with no changes noted in price schedules. Demand has been very fair especially for futures.

The catch of cod up to date is now 34,000,000 against 55,882,000 last year. Yield of steam refined non-freezing medicinal oil is 51,607 barrels against 67,465 barrels last year.

Clove oil has been reduced rather sharply during the past month. The market is now at from $1.35 to $1.40 per lb. The spice from which the oil is made is much easier so that cost of production will be lower in the months ahead. For August delivery the oil is offered at $1.25 per lb.

Citrus Oils Unchanged

The citrus oils continue weak and dull. The warm weather has not increased the demand for these oils to the extent necessary to create a firmer position.

Competition in bergamot is still keen with this commodity selling at levels reported to be the lowest on record. Spot quotations range from $1.60 to $2.15 per lb. according to quality and seller. In spite of these low figures for bergamot few dealers can point to any more than a routine demand. The Italian market continues comparatively weak with the tendency there to accept reasonable bids. Stocks are reported as not being over large but in view of the demand are ample.

The lemon oil market in Italy is also easy in tone with the favorable purchasing price continuing. Competition is current to a noticeable extent although the spot market price remains unchanged. Vice Consul David H. Buffum, Palermo reports that there was an upward trend in the oil of lemon market at Palermo during the first quarter of 1931 featured by larger export shipments to the United States than have been made for some time. Prices, which were low at the beginning of January, averaging about $0.65 per English pound c. i. f. New York, rose to about $0.80 at the close of the period. Storms occurring during the first three months of the year caused losses of considerable fruit that was to be used for the extraction of lemon oil. During the period under review, 20,800 kilos of lemon oil were shipped from Palermo to the United States as compared with 5,600 kilos during the March quarter of 1930.

Despite reports of an increased consumption of orange oil, keener competition has developed, forcing the market to new low levels. Domestic expressed oil is offered at from $1.85 to $1.90 per lb.

Lime Oil Up Again

Distilled lime oil continues the one strong item in the essential oil market. Price has again been put up 25c per lb. and is now offered at from $11 to $11.25 per lb. The strength in this oil is due to conditions in the primary market where a supply of oil insufficient to meet world requirements exists. This situation has been of long standing and there are no immediate prospects of larger supplies coming forward. Stocks in the spot market are at a level were an increase in sales would practically exhaust them. Although the price of this oil is now at a very high level there is very little likelihood that the balance of the summer, the largest consuming season, will see any relief to consumers. Expressed oil is more readily obtainable with the price remaining steady.

Peppermint oil has again declined and is now offered on the basis of from $1.65 to $1.75 per lb. The primary market continues weak. It is reported that this commodity is now at a level where it cannot be handled at a profit. In spite of this many of the large users are ignoring the low prices, still feeling that in view of a new crop movement further declines will occur.

Spearmint oil is also weak in the primary market with the spot market showing an easy undertone. The nearness of a new crop has had the tendency to keep buyers out of the market. The situation is therefore very similar to that prevailing in peppermint. New crop prospects are reported as good so that provided nothing unforseen happens prices should continue on the easy side.

Ceylon citronella is easier in the spot market being offered at from 38c to 40c per lb. in drums. This represents a decline of about 4c per lb. during the past month. Cables from abroad have been much lower with the decreased cost of replacement being passed along to the consumers here. Java is also weaker being reduced to the basis of from 51c to 53c per lb.

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NEW YORK

Market Facts from Grasse

By O. C. Zilisch

Orange flower products weak -- Rose price structure disastrous -- Cannot give away jasmine flowers -- Mountain narcissus over supplied.

A GREAT deal of rain fell in the Grasse region during the month of May, resulting in delays for the gathering of certain cultures like the May rose and the orange flower. Weather conditions throughout France have continued very changeable, with cool weather dominating. The heat necessary to some of the perfume-flower plants in the Grasse district has been missing, with the two principal cultures of this period suffering in consequence, namely the rose and the orange flower.

Insofar as the orange flower is concerned, the rains of the first and latter parts of the month have given too much activity to the sap in the orange trees, with the result that the trees themselves abandon their flowers to produce wood. Sudden hot waves, sure to follow such periods of rain, are promising to lower by a great deal the yield predicted for the orange flower. Only a month or so ago it was thought that the crop of orange flowers would reach a comparatively high figure, say over a million kilograms of flowers. Just what the yield will actually show in the final figures is difficult to say at this time, but it is certain that the yield will not reach any more than one-half or at most three quarters of a yield like that gathered in three years ago, 1,600,000 kilograms. In fact, the statement is made definitely by those in close touch with the situation that the large yields of severa years ago will not be repeated for some time. This statement is backed up by the fact that no new plantations, practically speaking, are being established, and this, combined with the damage done by the hard winter of 1928-29, spells a gradual decline, it is felt, for this important culture.

Furthermore, the price paid for the flowers this year is far from encouraging to the growers of orange trees. Last year the price paid was 10 francs 60 centimes ($.424) per kilograms, whereas this year the price decided upon is 4 francs (16 cents) per kilogram, delivered. It is not difficult for one to see the tremendous drop in revenue to the grower, making it almost impossible for him to count on anything to merit the name of profit. In fact, the price received has served to cover very little of the production and gathering costs.

The cooperative Nerolium asked 5 francs per kilogram (20 cents) delivered, in view of the crisis existing throughout the region, but it was not possible to arrive at an agreement with the Perfumers' Association, who offered only 4 francs. This has resulted in the cooperative working its production, with the distilling perfumers paying 4 francs per kilogram.

It is still possible that the yield on orange flowers holds within itself certain surprises, and if the weather to the last does not favor the yield for this season then the total figures may run below anything that might have been predicted.

Orange flower products are moving into production comparatively slow. Products like neroli, in some instances, are not moving at all, a complete stoppage being experienced by some of the distillers in the region. Naturally, these stocks are weighing very heavily on the market in general, and for the moment does not show any decided tendency for relief. Everything possible is being done, and it is hoped by a number of the holders of stocks that at least certain amounts of orange products will move into production soon.

The new yield, however, although not as abundant as predicted some time ago is still a yield to reckon with, and prices of orange products are, therefore, thought to be scheduled for a drop in price all along the line. Just what this drop will be is difficult to predict at the present time.

A number of the holders of large stocks of neroli and other orange flower products are doing their level best to hold out, so as to keep from underselling the market by too much. Everyone is watching conditions in the Grasse region, as a close-up of the Grasse crisis, appearing in another section of this issue, shows. The crisis exists, and on things like jasmine, reported from month to month, matters are becoming serious, as explained below in this month's report.

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As already mentioned, the May rose, one of the most important cultures of the Grasse region, has also suffered about fifteen days delay, due to adverse weather conditions. In previous reports it was stated that this year's yield would not be as abundant as usual. This continues to hold true, and is accentuated by the fact that a number of the growers of roses have actually gone in to satisfy the green grocer trade. Which means that the statements made more than a year ago in Drug Markets regarding this development are seeing the light of day in the Grasse district.

No one in the district felt that the price for roses this year would actually go to 1 franc 50 centimes (6 cents) per kilogram, delivered, though it was known that there would be a decided drop in price. That the price of 1 franc 50 centimes is too low everyone can see, and to minimize the state of discouragement existing among the growers of roses would be to give credence to an untruth about the entire situation existing in connection with practically all of the perfume-flower plants grown in the Grasse region. Some of the more optimistic growers thought that the price this year would not go below 2 francs 50 centimes (10 cents) per kilogram, whereas the more pessimistic thought that roses would bring, at least, 2 francs (8 cents) per kilogram.

The final result of all this will, of course, be the destruction of more and more rose plantations, these to give way to the more plebeian cultures like lettuces, table grapes, etc., but which, at least, bring in a living wage to the grower. No one who has not been in the Grasse region can realize just what this means to the growers, persons who have for generations been doing nothing except grow perfume-flower plants for the perfume industry of the world.

Some of those close to the situation are now expressing the fear that the entire region is in for a tremendous change during the next few years. Conditions, if one is to believe the various sides represented, are anything but brilliant. As already reported in a previous issue, the actual planting of cultures to replace those used by the distilling perfumer, is in progress. A visit to the region will bear out this situation as signalled.

Although nothing definite can be stated, it is generally felt that rose products are slated for a considerable downward move. True, much depends upon the actual yield in final figures and the moving into consumption of holdover stocks.

Much has been said about the jasmine, one of the most important cultures of the Grasse region, in previous issues regarding the crisis this interesting plant is going through. Large stocks of jasmine products are in existence, and every effort possible is being made to move these stocks into consumption of some kind.

Sacrifices of prices, with the aid of the Government, are rumored. In fact, this development in the situation can be taken as being even more than a rumor, because definite steps have been taken to bring about an understanding between the Government and certain interested parties. The result, if successful, will be the placing on the market of a large quantity of jasmine at a price below anything now offered or quoted.

There is one idea dominant in the minds of those holding stocks, and that is to liquidate them at all costs. Just how these pourparlers will come out is a matter of conjecture, but, nevertheless, they are being approached with some feeling of relief by those holding stocks of any size.

Fear for the jasmine as a culture n the Grasse region continues to be expressed by growers and distillers alike. This year's crisis has been so severe that it is thought the memory of it will be too sharp for the growers to continue the growing of jasmine. In fact, if the plan for this year goes through, that of not gathering the jasmine flower, it is not hard to see that the growers will hardly have the courage to look forward to another barren season or two. If stocks should move into consumption very quickly, that would, of course, be another story, but the likelihood of any speed along these lines is seriously discounted by those in touch with the general situation of world economics.

The fact remains for the grower of jasmine that this year he can not even give his jasmine flowers away, for the distilling perfumers are not only hesitating before the yield, but they are actually refusing to take any of it in.

Mountain narcissus products have, apparently, suffered a decided drop in use among the perfumers. The production of mountain narcissus used to run into comparatively large figures, but the reverse is the case at the present time. The narcissus brought only two francs per kilogram this season, a price considered far too low for the grower of this culture. The consequence is that one may look for a decided retrenchment among the growers on plantations of this perfume flower.

With this discouragement on various cultures mentioned comes the decision on the part of the growers to retrench in the matter of practically all perfume-flower plants. This retrenchment includes the tuberose, rose geranium, reseda, mint, etc., cultures for which the Grasse region was at one time, not so long ago, known throughout the world. The yields on these various cultures will not be very important this season.

Wine grapes are now being grown in larger quantities, as the climate and soil of the Grasse region are favorable to this type of culture, as it is to the table grape, which has taken considerable extension during the past few years.

The rains of recent weeks have done a great deal of good to the olive trees, which give signs of a good-sized crop at the present time. Unfortunately, the olive oil trade is also suffering in its own way, and it is

felt that the good crop will only go to waste. Some of the canners in France are now putting up a certain amount of the olives found in the Grasse region, and the success with which they have been received among the consuming public is giving the olive growers a slight spark of hope for their crops.

Olive oil market for May is reported as calm in Marseilles, without any change in price. From Nice a number of shipments were made for export, as well as into the interior of France. Prices are given as practically stationary. Nice extra is quoted at 750,800; Tunisian at 615/635; Spanish 10/235 pesetas.

At the recent meeting of the Syndicat Central des Huiles Essentielles et Matières Premières Aromatiques, the matter of repression of fraud in connection with orange flower products was gone into at length. A report on this situation, which is very interesting to the trade throughout the world, will appear in an early issue of Drug Markets.

Multiple Seizures Checked

(Continued from page 546)

court and says that the government's motion to dismiss the appeal "admits all material facts" stated by the company. The judge, in the opinion, then takes up legal points presented. The food and drugs act, he says, requires the Department to examine specimens to determine whether they are mis-branded or adulterated, and if it appears to the Department that there is violation of the law, the facts shall be certified to the U. S. district attorney, who shall institute seizure or criminal proceedings.

It is conceded by the government, the court says, that it is for the courts to determine whether a given product is adulterated or misbranded, and that it is the function of the Department to investigate and make tentative findings which have no binding or obligatory force in themselves. Due process of law requires this, the court holds. Continuing, the opinion says:

"Inasmuch as every district attorney to whom the Department makes certification must institute proceedings, by indictment or libel for condemnation, or both, it is evident that even though the findings of the Department are merely administrative, nevertheless, if such certification should be made to the district attorney in every district where a product might be found, the manufacturer would be crippled or ruined long before the final adjudication in the court could be had. Such a result, we think, was not contemplated by Congress, except possibly in unusual cases where drastic action would be necessary for the immediate protection of the public. Is this a case of that character? We think not. Appellant's remedy is for external use only."

The court then takes the Department to task, mildly, for its conduct in connection with the old 1919 case against the National Remedy Co., in New Hampshire involving seizure of its product, on the alleged ground of misbranding. In that case the company obtained a jury verdict against the government. "We must assume, therefore," comments Judge Robb in his opinion, "that the Department at that time was mistaken and that the remedy was not misbranded within the meaning of the law. The remedy was the same and the advertising was substantially the same as it is now. The contention then was that the remedy was misbranded. It is now contended that it is not only misbranded but adulterated. If it is adulterated now, it must have been then, yet the analysis at that time failed to disclose adulteration. We may assume, therefore that the adulteration (if any) is not of such a character as to endanger the public. This assumption is justified not only because of the failure to detect adulteration in the analysis of 1919, but because for a period of six years after the judgment in the District Court for New Hampshire appellant was unmolested in the conduct of its business."

The court said that while there is no rule permitting a person to disobey a law once in order to test its validity, the imposition of such heavy penalties for disobedience as to intimidate the parties from seeking judicial construction of the law operates to deny them the equal protection of the law. In the present case, the opinion continues, the Department's course would "in effect deprive appellant of its property through the destruction of its business before the issue involved could be determined by the court. The result, therefore, would be little different than as though no provision had been made for judicial review. Such a course of conduct on the part of the Department amounts to arbitrary exercise of power and is a deprivation of due process of law."

"A court of equity has jurisdiction to restrain by injunction the institution of a multiplicity of suits under such circumstances as are here present," says Judge Robb, later on. He then quotes the government contention that no practical relief would be afforded the National Remedy Co. if an injunction were issued, for the alleged reason that under section five of the food and drugs act, federal district attorneys could proceed against shipments of B. & M. External Remedy throughout the country "when any health, food or drug officer or agent of any state, territory or the District of Columbia should present satisfactory evidence of such violations."

The court declares that "this contention is without merit. The relief prayed for is against appellees (the Department of Agriculture) to prevent them from causing seizures of practically all of appellant's product, and to this relief, under the admitted facts, appellant is entitled."

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News

Acquisitions

Wyeth-American Home

American Home Products Co., New York, has acquired John Wyeth & Bro., Philadelphia, pharmaceuticals, which gives the former company a total of twenty-one units. The latter company was established in 1842 and manufactured a full line of pills, tablets, extracts, liquid pharmaceuticals and trade-marked specialties, including a wide group of effervescent salts.

The amount paid for this latest acquisition by the American Home Products Company has not been disclosed. Reports have had it that the offers ranged from $3,000,000 to $4,000,000, and it has been authoritatively stated that the amount was considerably less than the latter figure. The transaction was wholly for cash, being financed out of the purchaser's surplus and with bank accommodations, no additional issue of Home Products stock being made. At the end of 1929, the Wyeth company reported under the laws of Massachusetts total assets of $4,108,094. Its par value stock capitalization was reported as $4,000,000, and its operations during 1929 were reported to have resulted in a deficit of $17,510.

American Home Products Co. is believed to have close trade relations with Drug, Inc. Capital structure consists solely of 611,000 shares of no par capital stock. Present dividend rate is 35 cents monthly and 1930 net income was equal to $5.49 per share, as compared with $5.57 a share in the preceeding year.

Curran-Affiliated

Affiliated Products, Inc., Chicago, completed arrangements, June 5, by which it acquired Curran Laboratories, Inc., Brooklyn, makers of "Jo-cur" products for the hair. The acquisition was effected through the efforts of Otis E. Glidden, president of the Affiliated group which includes, in addition to Curran, Edna Wallace Hopper, Inc., Kissproof, Inc., and Quindent Laboratories, all of Chicago, and Louis Philippe, Inc., and Neet, Inc., both of Port Chester, N. Y. The acquisition was on the basis of an exchange of stock and payment in cash and was made from the cash and surplus of Affiliated, thus necessitating no increase in capital stock which at present consists of 382,800 shares of no par common stock.

Curran Laboratories will continue to operate under its own officers and with its present personnel as a subsidiary of Affiliated. The plant will retain its present location in Brooklyn and a branch manufacturing unit be opened in Chicago.

Affiliated Products was established in June, 1930. First quarter profits amounted to $1.07 per share as compared with 42 cents per share for the same period of 1930. Present annual dividend rate is $1.60.

Clapp-J. & J.

Johnson & Johnson, Inc., New Brunswick, N. J., has acquired Harold H. Clapp, Inc., Rochester, N. Y., makers of baby foods. C. A. McCormick, treasurer, and H. W. Roden, director of baby products division, Johnson & Johnson, have been added to the board of directors of the Clapp company, and Young & Rubicam, Inc., New York, has been retained to direct the advertising.

Crown Cork & Seal Co., New York, plans to merge its interests with those of the Detroit Gasket Co., Detroit, on the basis of two shares of Detroit Gasket stock for one of Crown Cork & Seal. Plan becomes operative upon deposit of 95 per cent. of the Detroit Gasket stock for such exchange.

Chapman & Rodgers, Inc., Philadelphia, manufacturing chemists, has purchased the business of Pinkus & Co., of that city.

Companies

More Citric

Hawaiian Pineapple Co., Ltd., Honolulu, has signed a contract with a New York house, believed to be McKesson & Robbins, Inc., by which the latter will distribute citric acid for the pineapple company. The citric acid is made from pineapple juice, and the new chemical plant of the pineapple company, which has been in operation for about six months, is said to have an annual production basis of 800,000 pounds of acid, with facilities an annual increase of about 20 per cent.

Clarence E. Condon, chemist and sales engineer, formerly with the United Chemical Works, Corona, Calif., is in charge of merchandising the product which is marketed as "Dole Brand Citric Acid, U.S.P. It is said that he was responsible for completing the arrangements by which McKesson & Robbins will handle distribution of the product. James D. Dole is president of the Hawaiian Pineapple Co.

Adjustable Formula

Packer Manufacturing Co., New York, in promoting sales of "Scalptone", is featuring a small vial attached to the closure and extending into the bottle, which contains oil to be mixed with the "Scalptone" according to the individual treatment desired.

Another Laxative

E. L. Patch Co., Boston, is introducing a new mechanical laxative, "Kondremul", a true emulsion of mineral oil and sea moss. It is supplied in two forms, plain in a blue package, and with phenolphthalein in a red package.

Emery Industries, Inc., has announced a new form of stearic acid in the form of small flakes. The flakes are pure white triple pressed stearic acid.

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A STUDY of the Crysalba characteristics, listed to the right, will indicate how completely this new base fits into your product. Supplying a polishing ingredient that is softer than the tooth enamel and equally satisfactory in an acid or alkaline tooth paste.

It saves glycerine, because it is low in absorption—a worth-while economy now; an item that will be increasingly important as glycerine prices go back to normal.

Study the qualities of this fundamental improvement in dentifrice practice, and let us work with you in adapting your formula, or in creating a formula for you. Our technical staff, a section of Swann Research, is always at your service.

Generous samples mailed on request—to show laboratory and production men how Crysalba can improve both product and profit.

Study these points of superiority:

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2. Low absorption of elixir
3. Inert, neutral and physiologically harmless
4. Uniformly white; uniform in purity, crystalline structure and absorption
5. Softer than the enamel of the teeth, yet highly effective as a polishing agent
6. Tasteless, odorless; insoluble in ingredients commonly used in tooth paste manufacture; will not harden in the tube
7. Contains no free lime
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McKesson in Philadelphia

McKesson & Robbins, Inc., has completed arrangements with the Philadelphia Wholesale Drug Co., a mutual organization, by which the latter will carry the McKesson & Robbins line of products thus giving McKesson & Robbins 252 new retail outlets in a territory where that company previously had no retail outlets.

Bromine from Sea

Dow Chemical Co., Midland, Mich., together with the Ethyl Gasoline Corp., has undertaken to construct and equip an experimental plant for the extraction of bromine from ocean water. Plant will be located in New Hanover county, North Carolina.

New Members

Compagnie Parento, Inc., and Truempy, Faesy & Besthoff have been elected members of the drug and chemical section, New York Board of Trade.

More Cellulose

Du Pont Cellophane Co., New York, plans construction of an addition to Buffalo plant involving a reported expenditure of $2,000,000.

Sylvania Corp., Fredericksburg, Va., transparent cellulose, is planning construction of a $1,000,000 addition to its plant.

Moved

E. M. Laning Co., perfume materials, has moved its main office and laboratories to its own building at 433 Stuyvesant ave., Irvington, N. J. A New York office will be maintained at 130 Pearl st., that city.

Teschner-Myers Co., laboratory equipment and reagents, has moved its offices to 97 Chambers st., New York. Officers of the company are now president, Henry J. Baitinger; vice-president and treasurer C. S. Myers; and secretary, Robert Rinear.

Sherwood Petroleum Co., Inc., Brooklyn N. Y., has established a branch office and plant in Memphis, Tenn., under the management of Thomas and Owen Lilly, 476 Union Ave., that city. Stocks of petrolatum and mineral oils, of both American and Russian origin are now being carried in Memphis.

Niacet Chemicals Corp., Niagara Falls, N. Y., announces that it is now producing a grade of formaldehyde conforming to all the requirements of the U. S. Pharmacopoeia, for the pharmaceutical and medicinal trade.

Merck & Co., Rahway, N. J., has extended for the 1931-32 academic year at Princeton University the fellowship in analytical chemistry established for the preceding year.

Publicker Commercial Alcohol Co., Philadelphia, recently made a shipment of 3,000,000 gallons from that port for Westwego, La., said to be the largest cargo of that product in history.

Ciba Co., New York, has introduced a new local anesthetic, "Nupercaine, Ciba".

California Chemical Co., Red Bluff, Calif., is conducting experiments on the extraction of heptane from the Jeffrey pine trees. It is reported that heptane is used extensively as a base for shaving creams.

Charles M. Haag has been appointed manager of the Kansas City, Mo., branch of G. D. Searle & Co., pharmaceuticals, Chicago, succeeding S. R. Seaver.

Princess Pat, Ltd., Chicago, has announced that free goods policy to retailers and 15 per cent. discount to wholesale druggists will be discontinued as of July 1.

William S. Gray & Co., New York, has been appointed sales agent for the Western Borax Co., Ltd., Los Angeles, manufacturer of refined borax.

Kimberly-Clark Corp. has received a contract of several million dollars to supply the text paper for "Liberty" magazine over a period of several years.

Mercurio-Europeo, mercury combine, has announced a reduction in mercury price to approximately $82 per flask c.i.f.

Woodbridge Alcohol Co., Lodi, Calif., plans to add cream of tartar to its products.

Chain Stores

Drugs Small

Over $1,500,000,000 worth of merchandise composed of over 50,000 different items is sold annually by the 60,000 retail drug stores in the United States. Of the $300,000,000 annual business done by the 6,000 units comprising the chain store group, approximately 33 per cent. is derived from soda fountain and lunch counter sales.

This indicates, according to McKesson & Robbins annual report, that their proportion of the drug volume is approximately 15 per cent. of the total annual sales, whereas the 54,000 independent stores handle 85 per cent.

Chain drug stores cannot be profitably operated, the report continues, if their annual sales volume is less than $50,000 a year. The average annual net sales by drug stores in the United States in 1928, according to a census of distribution by the Chamber of Commerce of the United States, was $25,454.

Thus, it appears to be definitely established that efficient wholesale organizations would continue to be necessary to the drug trade as over 52 per cent. of population is living in rural communities and towns of less than 10,000 population, where it is almost impossible to do a volume approaching $50,000 a year.

United vs. Gillette

United Cigar Stores Co. of America has filed suit for $7,000,000 against the Gillette Safety Razor Co. in the U. S. District Court of New Jersey for damage and interest losses sustained through alleged breach of contract. The suit was brought in retaliation of one of $10,000,000 previously filed by Gillette charging certain misrepresentations regarding sales and alleging that the contract had been entered into as a result of these misrepresentations.

Tax Rehearing

United States Supreme Court has agreed to entertain a petition for a rehearing on its decision upholding the Indiana tax on chain stores. The court will return from its summer recess in October when it will decide whether a rehearing is to be granted.

More State Taxes

WISCONSIN

The Wisconsin Assembly has passed a substitute amendment to the bill (A. 74) proposing a license tax on chain stores. The bill is modeled after the Indiana law recently declared constitutional by the Supreme Court of the United States, the rates being graduated from $3 on one store to $50 each on stores in excess of 20.

FLORIDA

The Florida Senate has passed the bill (S. 2-X) proposing a license tax on chain stores with rates varying from $5 for one store to $50 for each store over 75. The bill also provides a tax of $3 on every $1,000 worth of stock.

ILLINOIS

The Illinois House Judiciary Committee has recommended passage on the bill proposing a license tax on chain stores (H. 1152).

Pine Boards

Walgreen Co., Chicago, plans to open ten pine board type stores as an experiment to test their value. Toledo, Ohio; Joplin, Mo.; and Oklahoma City are mentioned as three of the projected locations.

California Capper Bill

State of California has passed the Capper-Kelly Fair Trade Bill in the language of the pending measure in Congress. This bill is effective in the State of California, regardless of the State of origin of the goods, provided only that the sale and transfer of title of the goods from vendor to vendee shall be a transaction completed within the State of California.

New Unit

Carroll Co., New Haven, Conn., toilet goods chain, has leased for a term of years a store at 811 Broad st., Newark. The company now has throughout New England a chain of 35 stores specializing in perfumes and cosmetics. The Newark store is the first to be acquired in the general metropolitan area.

No One Cap

No one style of closure can possibly satisfy, completely satisfy . . . in all cases, on all points, for every sort of product.

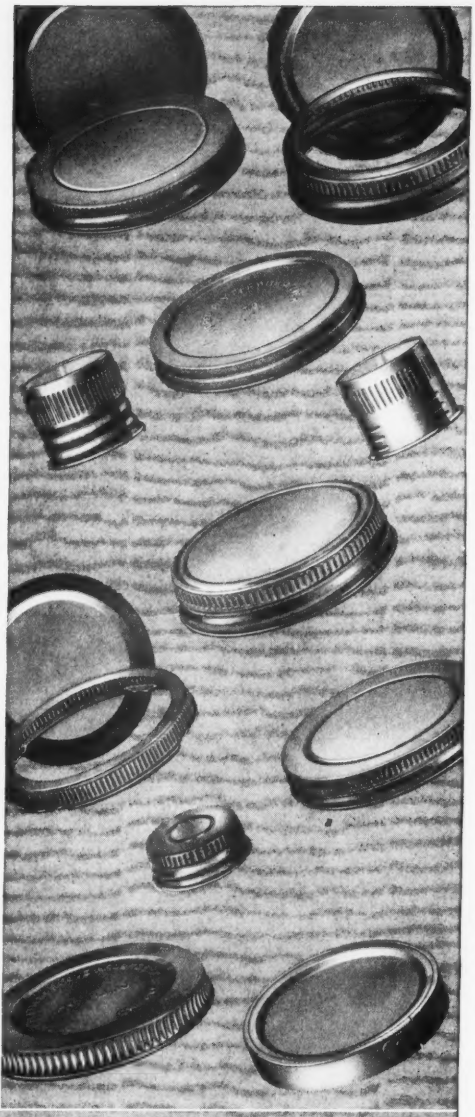
• Granted that this is true, then what? How can you, the buyer, distinguish between the conflicting claims of many styles of closures? Can you even be sure that the closure you are using at present really gives you the maximum results—considering your own special conditions?

• Offhand it might seem unreasonable to expect unbiased advice from a person trying to sell you goods.

• Yet we feel that you can get *just that*—from Anchor. For Anchor is not limited in what it recommends. Is not biased in favor of any one particular type of cap. Is not forced to fit the product (no matter what it may be) to just one or two types of closures.

• On the contrary, Anchor has every reason to be helpful and impartial. For Anchor makes 15 distinct styles of closures. A type to meet every sealing or packaging need. Hence, Anchor can analyze your conditions from every standpoint—package appearance, convenience to the consumer, sealing efficiency, economical production routine—and then wholeheartedly make recommendations for improvement.

• We will be glad to do this without obligation, of course, and submit to you our suggestions. Samples of your present packages will start us to work!



Anchor Cap & Closure Corporation
22 Queens Street, Long Island City, N. Y.
Branches in all Principal Cities

Anchor CONSUMER-APPROVED CLOSURES for every Packing Need

Receivership

McKesson-Vogeler Drug Co., Cincinnati, has asked that a receivership be appointed for the Consolidated Drug Stores, Inc., operating a chain of stores in Lexington, Ky., and neighboring towns.

Council Approves

Gluconate

Calcium Gluconate-Pfizer—A brand of calcium gluconate N.N.R. manufactured by Chas. Pfizer & Co., Inc., Brooklyn, U. S. Patent applied for.

Calcium gluconate contains calcium equivalent to not less than 12.4 nor more than 12.8 per cent. of calcium oxide. Used to obtain therapeutic effects of calcium. It is more palatable than calcium chloride for oral administration and for hypodermic or intramuscular use is nonirritant. Dosage orally for adults, 5 Gm. (75 grains) three times a day; for children 2 Gm. (30 grains) three times a day. Intramuscularly or intravenously, for adults, 1 Gm. administered every day, on alternate days or every third day; for children, 0.2 to 0.5 Gm. administered every day, on alternate days or every third day.

Quiniobine

Quiniobine, manufactured by Chemisch-Pharmazeutische A. G., Bad Homburg, Frankfort-a-Main, Germany and distributed by Spicer & Co., Glendale, Calif. Quinine bismuth iodide rendered soluble in olive oil by means of lecithin. Proposed as a means of obtaining the systematic effects of bismuth in the treatment of syphilis. It is claimed that, since in quiniobine the quinine bismuth iodide is soluble, the injections are only slightly painful and the dosage is more accurate than with suspensions of quinine bismuth iodide. Single does for adults is 1 to 2 cc. twice a week; the average course is from twelve to fourteen injections.

Pollen Lederle

Concentrated Pollen Antigens-Lederle, manufactured by the Lederle Laboratories, Inc., Pearl River, N. Y. For action uses and dosage see Allergic Protein Preparations, New and Nonofficial Remedies, 1930, page 23.

Pollen Squibb

Cottonwood Pollen Allergen Solution-Squibb and Grasses Combined Pollen Allergen Solutions-Squibb, manufactured by E. R. Squibb & Sons, New York.

Diphtheria Toxin for Schick Test in Peptone Solution, manufactured by Lederle Laboratories, Pearl River, N. Y.

I. H. Budd has formed the Budd Aromatic Chemical Co., with offices at 667 Washington st., New York.

People

No Salary ?

Gerard P. Lambert, new president, Gillette Safety Razor Co., is to receive no salary until $5 per share is earned.

By the terms of contract Mr. Lambert is to serve without compensation until net earnings, as defined in the contract amount to $5 a share. If in any year the net profit reaches or exceeds $5 a share, the company will issue to Mr. Lambert 20,000 shares of common stock. If the earnings equal or exceed $6 a share Mr. Lambert will receive 20,000 shares more. An additional 20,000 shares will be reserved, of which 10,000 may be issued to Mr. Lambert, and the balance to other executives, as determined by the executive committee. The directors reserve the right to decide in the future whether to pay a salary to the president.

The stockholders also voted the regular dividend of $1.25 on the preference stock, payable on Aug. 1 to stock of record July 1.

Quarter of Century

H. W. Atkinson, purchasing agent, and Charles P. Haffey, in charge of the foreign department, Charles Pfizer & Co., fine chemicals, New York, celebrated a quarter of a century of service with the company on May 26. At that time, their associates held a dinner in their honor at the Paramount Grill, New York, and presented each with a gold watch. Frank d'Antonio made the presentation.

Penland Honored

James M. Penland, president, National Wholesale Druggists' Association, was guest of honor at a dinner dance given June 5 by the Dallas County Pharmaceutical Association and the Texas Drug Travelers' Association.

Monsanto Changes

Monsanto Chemical Works, St. Louis, has announced that Charles Belknap, president of the Merrimac Chemical Co., Monsanto's New England subsidiary, has been elected executive vice-president of Monsanto, and will act for that company in the absence of the president, Edgar M. Queeny. William M. Rand, vice-president of Merrimac, was also elected a director of the Monasnto Chemical Works.

Edgar M. Queeny, president, announced that the Graesser-Monsanto division was now operating on a profitable basis and that the company as a whole was beginning to realize upon various manufacturing economies and new additions to its line.

Sales Manager

Fred E. La Combe has been appointed sales manager of the Leland Chemical Co., Inc., Milwaukee. He was formerly with the Palmolive Co., and later with the Lavo Co.

Heads Kiefer

Karl Kiefer Machine Co., Cincinnati, has elected James A. Rheinstrom, president, succeeding the late Karl Kiefer. Ernest E. Finch is vice-president and general manager and Samuel Fichheimer, secretary.

Indicted

Daniel Kovacs, director and general manager, Royal Manufacturing Co. of Duquesne, Pittsburgh, has been indicted by the Grand Jury of Kings County, for publishing a statement to the effect that the Silver Rod Stores, Inc., had gone through bankruptcy proceedings.

Guests

L. H. Hutchins, director of public relations, the Swann Corp., had the following guests on the occasion of the dinner at the Hotel Astor, May 28, in honor of Sir James Hopwood Jeans, Kt., D. Sc., LL. D., F. R. S.:—J. T. Grady, American Chemical Society and Columbia University; M. D. Griffith, New York Board of Trade; H. E. Kerkow, "Sales Management"; W. J. Murphy, "Chemical Markets"; E. F. Sheets, "Drug Markets"; C. L. Suckley, "Journal of Commerce"; P. W. Swain, "Power"; and J. Dewhurst, McGraw-Hill Publishing Co.

Pfaudler Changes

H. S. Calvert, executive vice president in charge of sales development, Pfaudler Co., Rochester, N. Y., manufacturer of glass lined steel equipment, has announced the following new appointments: George F. Kroha is appointed vice president and general sales manager; George C. Calvert is appointed assistant general sales manager; Ranlet Miner, assistant secretary and foreign sales director; Philip S. Barnes, manager of sales, chemical division; and William H. Klee, heretofore in charge of Michigan and Ohio sales territory, is appointed manager, Midwest sales division which includes the Chicago, St. Louis, Cincinnati, Cleveland, and Detroit sales offices.

To Europe

FIRMENICH

Andre Firmenich of M. Naef & Co., Geneva, Switzerland, has returned to that country after a seven months stay in the United States, during which time he made his headquarters with Ungerer & Co., New York.

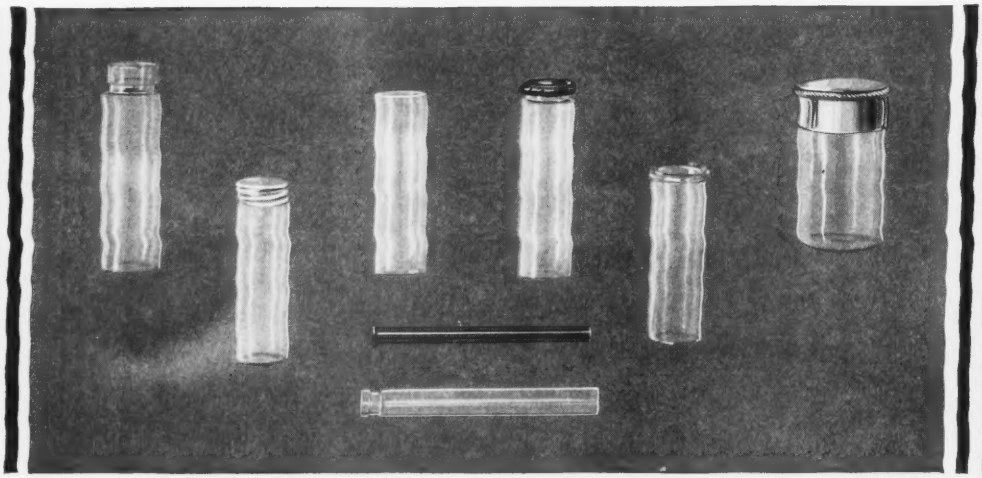
EYRAUD

L. Eyraud has sailed for Europe planning to open a sales office at 92 rue des Martyrs, Paris, where he will represent American manufacturers of toilet goods and cosmetics.

WATERMEYER

F. E. Watermeyer, president of Fritsche Bros., Inc., and Mrs. Watermeyer, are on an extended visit to Europe.

KIMBLE
AUTOMATIC MACHINE-MADE
VIALS



A copy of the above folder on Vials will be forwarded on request. It shows all types of standard and special Kimble Vials, with full-color illustrations of practical caps and closures.

Kimble Automatic Machine-Made Retempered Vials are fabricated in the largest plant of its kind in the world. More than 1,500,000 gross of these Kimble Vials are used annually by the drug, pharmaceutical and perfume industries.

Kimble Vials are made of the finest quality glass. Automatic machines insure uniform diameter and wall thickness. They are retempered to remove strains and weak spots. They are carefully packed to minimize breakage.

We are in a position to offer valuable suggestions on special sizes, uses and caps or closures for your particular needs. Quotations are given promptly, upon receiving the necessary data from you. Feel free at all times to consult with us.

KIMBLE GLASS CO., Vineland, N. J.
Sales Offices in
New York, Chicago, Detroit, Philadelphia and Boston

KIMBLE
EXAX GLASSWARE OF ASSURED ACCURACY NORMAX

Promoted

OPPER

A. L. Opper, sales manager, American Commercial Alcohol Corp., New York, has been elected vice-president of the company.

KEHO

Joseph Keho, formerly Western sales manager, has been appointed general sales manager, Helena Rubinstein, New York, cosmetics.

WILSON

Calsodent Co., Inc., New York, tooth powder, has elected Donald B. Wilson secretary and treasurer. He has been sales manager for the past three years.

Hale Speaks

Dr. William J. Hale, director of organic research, Dow Chemical Co., Midland, Michigan, addressed the annual meeting of the Manufacturing Chemists' Association, at Absecon, N. J., June 4, on "This Chemical Revolution".

Credit Man

J. E. Stilz, secretary-treasurer, Kiefer-Stewart Co., Indianapolis, is chairman of the drug and chemical group discussion at the 30th annual convention, National Association of Credit Men at Boston, Mass., June 22-27.

At Convention

J. J. Reilly, Mallinckrodt Chemical Works, and S. T. Edgerton, Metal Package Corp., were among those attending the sixteenth annual convention of the National Association of Purchasing Agents at Toronto, June 8-11.

Editorial Service

C. G. Hicks, formerly editor of the "Glass Container" prior to its merger with the "Glass Packer," and Karl L. Ford, director of the Glass Container Association Laboratory, will start an editorial service to be located at 43-49 Bleecker street, New York. Booth Hubbell, associate editor of "Glass Container" has joined as art director.

More Cosmetics

Jean Vivadou, son of V. Vivadou, has established laboratories at 21 W. 46 st., New York, where he will manufacture his own line of cosmetics.

Loveland Changes

E. B. Loveland, recently resigned as advertising manager of Stanco, Inc., is now vice-president, Electrographic Corp., New York.

Schmertz Elected

J. R. Schmertz, advertising manager, Mathieson Alkali Works has been elected first vice-president of the Technical Publicity Association.

Stephen L. Nordlinger, Conti Products Co., New York, soaps, has applied for membership in the New York Produce Exchange.

Dr. Kurt W. Haeseler has joined the staff of Foster D. Snell, Inc., Brooklyn, consulting chemists.

Obituaries

Dr. Stewart

Dr. John Stewart Jamieson, chief chemist, Sterling Products, Inc., proprietary medicines, Wheeling, W. Va., died of heart disease at his home in Alexandria, Va., May 18, aged 63. He was a graduate of the Kentucky School of Medicine and practiced medicine until 1903 when he entered government service with the Civil Service Commission. In 1919 he became a surgeon with the U. S. Public Health Service and in 1923 became associated with the bureau of chemistry of the Department of Agriculture. In May 1927, he resigned to become associated with Sterling Products, Inc. In addition to many other scientific organizations and clubs, he was a member of the executive committee of the scientific section of the Proprietary Association.

J. E. Quackenbush

J. E. Quackenbush, who, for approximately forty-five years, had been in charge of the vanilla bean department of George Lueders & Co., Inc., essential oils and perfume materials, New York, died at his home in Hackensack, N. J., May 22, aged 67.

M. Loeb

Monroe Loeb, president, Reich-Asch Corp., New York, toilet preparations, died June 2, aged 39. He has been with the company for twenty-one years and had been president since January 1, 1931.

F. Junkermann

Franklin Junkermann, president, Crandon-Hunter Co., Miami, Fla., wholesale druggist, died May 29.

Conventions

F. E. M. A.

Flavoring Extract Manufacturers' Association held its twenty-second annual convention at the Hollenden Hotel, Chicago, May 20-22. Among those who spoke were Dr. J. M. Doran, Commissioner of Industrial Alcohol; Edwin B. George, U. S. Department of Commerce; Charles S. Purcell, Joseph Burnett Co.; Joseph Huisking, Charles L. Huisking & Co., Inc.; Dean W. C. Weidler, Ohio State University; Dr. Alexander Katz, Florasynth Laboratories; M. C. Albretch, R. T. French Co.; R. M. Washburn, Dairy Products Institute; and Dr. John G. Glassford, McCormick & Co.

Officers for the coming year are president, E. L. Brendlinger, The Dill Co.; vice-presidents, Dr. B. H. Smith, Virginia Dare Extract Co.; W. F. Meyer, Warner-Jenkinson Co.; George M. Armor, McCormick & Co.; secretary, L. K. Talmadge; The Williams & Carleton Co.; treasurer, Frank L. Beggs, Styron-Beggs Co.

I. & D. M.

Insecticide and Disinfectant Manufacturers' Association, Inc., held its seventeenth summer convention at the Edgewater Beach Hotel, Chicago, June 1-3. Among those who addressed the association were Dr. Robert C. White, president; Charles P. McCormick, chiarman of the committee on insecticides; Harry W. Cole, secretary; Peter Dougan, chairman of the committee on disinfectants; Dr. George F. Reddish, chairman of the committee on nomenclature; O. J. McClure; John Gordon, Bureau of Raw Materials; V. W. Milder, committee on liquid soap; and John V. Halaska.

F. W. D. A.

Federal Wholesale Druggists Assn. will hold its 1931 convention September 1-3, at the Royal York Hotel, Toronto, Can.

Regulatory

Narcotics

Conference for the Limitation of the Manufacture of Narcotic Drugs has been informed by the United States that the latter does not find any plan put forward at Geneva entirely satisfactory and the American government has made certain proposals which it considers necessary in the regulation of drug manufacture, according to a statement June 1 of the State Department.

These proposals as made by John K. Caldwell, chairman of the American delegation, state that the United States is prepared to assist in obtaining any practical means by which the limitation of the manufacture of narcotic drugs may be attained; that there should be a limitation of the quantities of raw materials which manufacturers are allowed to use; that a system of import and export certificates should be applied to all opium and coca leaf derivatives; and that government should account for all imports, manufacture, sales and exports of all raw materials and drugs.

The conference June 3 rejected, by a vote of 43 to 2, a proposal of Russia to limit also the production of raw materials. Only Argentina supported Russia. Many of the others agreed with the American representative, Mr. Caldwell, the United States having made the same proposal at Geneva in 1925. Hope was expressed that this aim would eventually be attained, but its consideration now was opposed as premature and beyond the scope of the present conference.

Two matters which came up for discussion at this meeting were left undecided and referred to a technical

THE NEWPORT AROMATICS

Soft Sweet

AUBEPINE SCUR

(*Anisic Aldehyde 100%*)

Useful in Acacia, Wallflower, Sweet pea,

lilac, hyacinth, orchid, etc.

Blends well with

Terpineol

Linalool

Terpenyl Acetate

Acetophenone, etc.

non-irritating to the skin and will

not discolor soaps, creams or powders

NEWPORT CHEMICAL WORKS

INCORPORATED

PASSAIC, NEW JERSEY

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Societe des Usines Chimiques
de Rhone-Poulenc
Paris, France

New York Office
260 West Broadway
Phone WAlker 5-6166

Chicago Office
605 W. Washington Boulevard
Phone MONroe 2686

committee in each case. The first concerned a Venezuelan proposal combining the full American demand for a convention to cover all derivatives of opium and coca leaves and the Herbert May formula by which all derivatives would be considered guilty of leading to habit forming until proved innocent by the health committee of the League of Nations, instead of the reverse, which now obtains. German, Swiss and Turkish representatives objected, trying especially to prevent the limitation of codeine which the Germans stated could not be easily transformed into a harmful drug.

An Austrian proposal to suppress heroin was the second matter which caused a dispute, the Belgian, German and British representatives opposing. Their attitude was summed up by the British delegate, who stated that the proposal was quite unacceptable to the British medical profession, which found even the present restrictions irksome. Mr. Caldwell supported the proposal, as did the Chinese and Polish delegates. Mr. Caldwell stated that the United States was the only country which has suppressed heroin, and this has not caused any revolt by the American medical profession.

Not Exempted

Crude opium and coca leaves are not exempted from the requirement of consular invoices because of the restrictions placed on their importation, the Bureau of Customs has ruled.

A recent ruling of the bureau exempted large classes of products from the necessity of being accompanied by consular invoices when entered for import, and as this exemption included crude agricultural and forest products, the question was raised regarding the status of crude narcotics, which has now been settled by a supplementary order.

Drug Seizures

Federal Food and Drug Administration seized, in May, 76 lots of proprietary remedies, 63 consignments of foods, as well as varying stocks of crude drugs, fluid extract of ergot, substandard ether, and livestock feeds and remedies, shipped or held unlawfully, according to W. G. Campbell, Director of Regulatory Work, Department of Agriculture. Seizures included substantial stocks of nostrums recommended for serious human diseases, such as rheumatism, kidney and bladder disorders, neuritis, neuralgia, and other maladies.

KIDNEY PILLS

On May 1, the Government seized a consignment of pills, unlawfully recommended for kidney disorders, shipped by Brewer and Co., Inc., Worcester, Mass., to an Easton, Pa., consignee. These pills had been examined by Government chemists and pharmacologists and were found to contain nothing which would have curative value for the diseases mentioned. The shipping company indicated that it would make no opposition to the Government's charges of misbranding and consented to the destruction of the preparation.

LINIMENT

On May 6, the Department seized about 240 bottles of liniment shipped by M. Spiegel Medicine Co., Albany, N. Y., to a firm in Baltimore, Md. This liniment, "an orange colored oil, consisting of a petroleum distillate such as kerosene, camphor, a turpentine-like oil, oil of mustard, oil of sassafras, oleoresin capsicum, and methyl salicylate," was recommended for rheumatic pains, neuralgia, sore throat, bruises, sprains, and lameness. The Administration showed that the product could not cure these troubles and the court authorized seizure by the United States marshall.

Alcohol Imports

Dr. J. M. Doran, Commissioner of Industrial Alcohol, has forwarded a special communication to the Commissioner of Customs in reference to Article 155, which deals with the importation of products manufactured with alcohol or denatured alcohol.

This article does not permit the importation of products manufactured with alcohol or denatured alcohol into the United States without the approval in writing of the Commissioner of Industrial Alcohol, and then only when samples of such products be submitted to him with quantitative formulae.

This has now been changed to meet an existing emergency, and Dr. Doran gave his approval to release all alcoholic preparations and compounds in retail containers where the aggregate quantity does not exceed twenty-five wine gallons, without the submission of formulae to his bureau, provided the Customs Authorities believe that no violation of the Federal Statutes is involved.

Campbell Talks

W. G. Campbell, director of regulatory work, U. S. Department of Agriculture, addressed the regular monthly meeting of the Drug and Chemical Section, New York Board of Trade, June 3, on the subject of the food and drugs act. Percy C. Magnus, chairman of the section, presided at the meeting which was one of the best attended in the history of the section. Frank A. Blair, president, Proprietary Association, also said a few words and committee reports were made by S. W. Fraser, Dr. H. C. Lovis, and H. A. Brown.

Not Mercurochrome

De Bestt Chemical Co., Chicago, has been ordered by Federal Trade Commission to cease and desist from representing that a so-called "antiseptic" solution sold by that company is mercurochrome unless it contains in the stated strength the disodium salt of dibromoxymercurifluorescein. The commission found that the solution sold by this company contained little, if any, of this salt, although the preparation was labeled "Mercurochrome H. W. D. Two per cent Solution".

Veragen Denied

Anna Helen Arlt's application for registery of trademark, "Veragen", on toilet preparations, has been denied by Commissioner of Patents because of similarity to mark "Velogen" of Velogen, Inc.

Oxel Confusing

U. S. Court of Customs and Patent Appeals held, May 23, that there was a confusing similarity between the trademark "Oxel" of J. L. Prescott Co., and the mark "Oxydol" of the Procter & Gamble Co., and that the former company cannot register said mark.

Descriptive Mark

Court of Customs and Patent Appeals, in a decision handed down May 25, held that the words "herbs and iron" are sufficiently descriptive to prevent their being registered as an exclusive trademark in the controversy between the W. H. Bull Medicine Co. and Charles R. Spicer, doing business as the Pelvo Medicine Co.

Foreign Trade

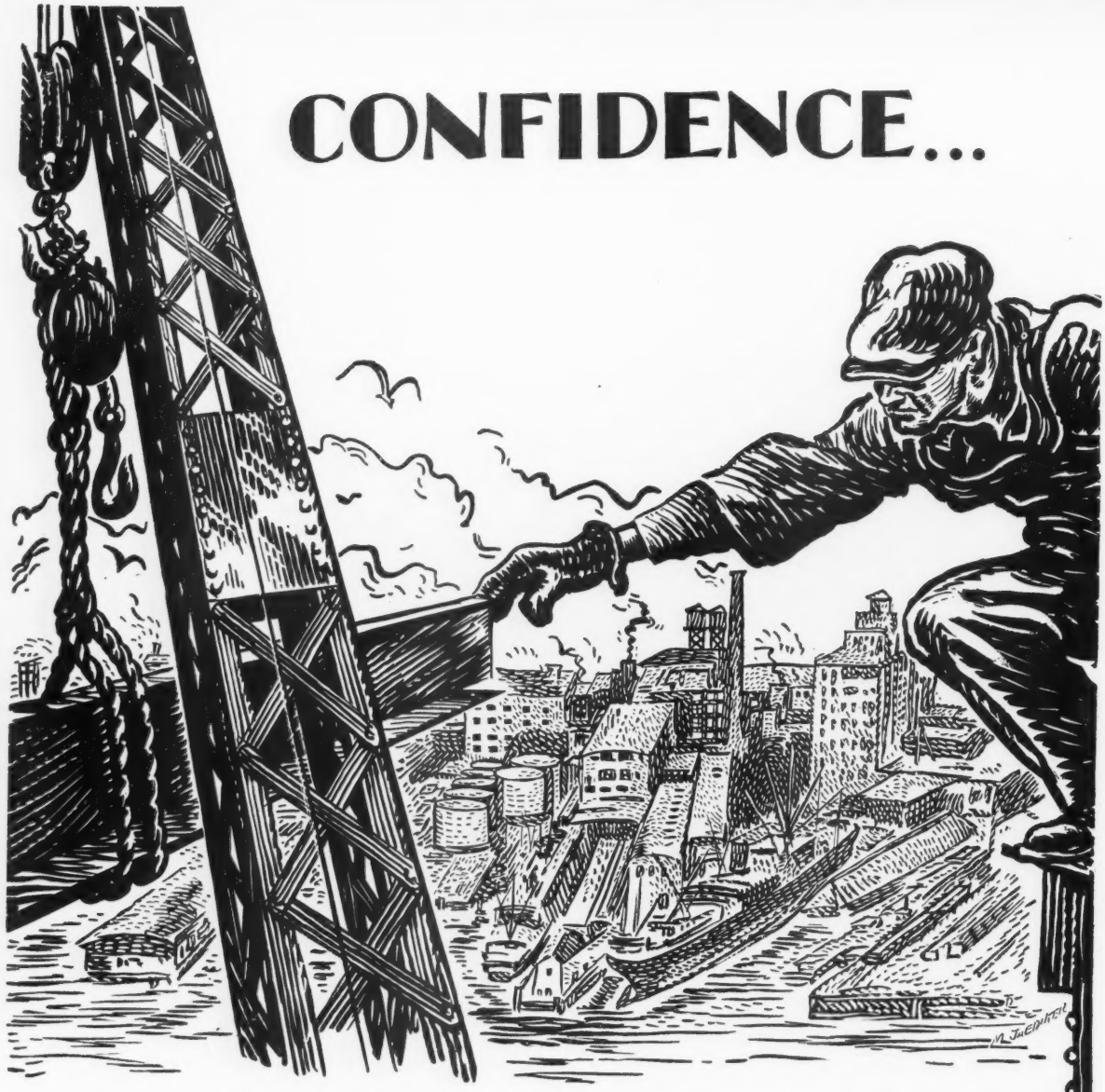
Sales Abroad

Foreign sales of the following classes of articles for 1931 are ahead of those for the preceeding year: Medicated Soaps, Plasters, Liniments; Malaria, Chill and Fever Remedies; Laxatives and Digestive Preparations. Sales of Cough, Cold and Bronchial Preparations approximately equal those made a year ago, while sales of Salves and Ointments, Tonics, Headache Preparations, and non-classified remedies have fallen off considerably. In the toilet article class sales of hair tonics are well ahead of those for the first quarter of 1930, but decreased sales are recorded for practically every other type of product.

According to the statistical statements compiled by the Department of Commerce for the month of March, 1931, the United States exports of proprietary articles, including shipments to non-contiguous United States territories, were valued at $1,961,182. Of this amount $1,048,531 represents the value of proprietary medicinal preparations, while the remaining $912,651 represents the value of proprietary toilet articles.

During the first quarter of 1931 exports of toilet articles were valued at $2,368,924. Exports of medicinal preparations for the first quarter were valued at $2,584,115. The combined value of these exports, $4,953,039 is about 15 per cent. less than the value of those exported during the first quarter of 1930, which amounted to $5,818,700.

CONFIDENCE...



You may have absolute confidence in placing your requirements for alcohol and allied chemicals with the Pennsylvania Sugar Company and Franco-American Chemical Works. The resources and facilities of these companies enable them to meet the ever-changing conditions in these markets year after year.

Pennsylvania Sugar Company
Franco-American Chemical Works

Sales Office

A.K.Hamilton

Sales Representatives and warehouse stocks in principal cities

95 WALL STREET — NEW YORK, N. Y.

Distillery—Philadelphia, Pa. — Chemical Plant—Carlstadt, N. J.

Russian Medicines

Soviet pharmaceutical and fine chemical industries have attracted greater attention on the part of the European chemical trade through the reported appearance of Russian products of this type, at allegedly low prices, on the Polish and other markets, according to German trade information received in the Department of Commerce.

The German chemical industry's information indicates that the bulk of the fine and pharmaceutical chemicals now being made in Russia is produced in six factories, either in Leningrad or Moscow, which are affiliated to the "Gosmedtorgprom" Trust for the production and sale of pharmaceutical products. There are also the so-called "Pharmaceutical Factory of March 8" in Moscow operated under the control of the Drug Co-operative Association of the Moscow District ("Aptekopralenie"), and the factory for military pharmaceutical products in Leningrad, the report states.

In addition there are a number of smaller plants, such as the alkaloid and santonin factory of Chimkent, Central Asia, the ichthyol factory at Ostaschkow, near Moscow, which is run by the organization of the shale industry, and the "Lomonossow" pharmaceutical factory in Kiew, Ukraine, which principally makes chloroform. One factory is now making several hundred pharmaceutical preparations and reagents producing large quantities of lactic acid, barium and bismuth salts, exeroform, dermatol, corrosive sublimate, glycerophosphates, citrate of iron and lead, salvarsan and neosalvarsan, biochinol, osarsol, etc.

Neosalvarsan is said to have been made in Russia since 1924 and in 1930 over 5,000,000 ampoules were produced. This product is being exported principally to Turkey, Persia and Mongolia. A considerable export trade has also been worked up in the material known as osarsol, some of it having already been sent to Germany.

Pumice Duty

Whittaker, Clark, & Daniels, Inc., and Chas. B. Christal Co., Inc., both of New York, have filed applications with the U. S. Tariff Commission seeking a decrease in the duty on ground pumice stone.

Etch Ampoules

Empty glass ampoules must be etched with the name of the country of origin, under a ruling of the Commissioner of Customs.

Safrol Duty

Application has been made to the United Kingdom Board of Trade requesting that crude safrol (camphor oil fraction containing more than 90 per cent. safrol) and diphenyl be exempted from the import duty of 33⅓ per cent. ad valorem levied on certain chemicals imported into the United Kingdom from non-British countries.

Argentine Cosmetics

Argentine Department of Hygiene has announced that after June 15, all imports of cosmetics and dentifrices must be registered before they may be sold in Argentina.

Advertising

Up in May

Advertisers of drug and toiletries with expenditures of $3,938,698 showed a gain of 5.1 per cent. in May 1931 from the May 1930 total of $3,748,679, according to Dorrance, Sullivan & Company, Inc., New York advertising agents. The expenditure of this industry in radio broadcast advertising amounted to $471,136, a gain of 81 per cent. over the $260,234 spent in radio advertising the comparable month of 1930.

In national magazines manufacturers of drugs and toiletries spent $3,416,880, of which total $2,563,621 was for beauty preparations and toilet goods and $853,259 for medical and proprietary goods. This total for national magazines compares with $3,430,711 in May of 1930, a decline of $13,831 or 0.4%.

For the first five months of the year 1931 the drug and toilet goods industry showed a gain of $341,685 in the amount of money spent in advertising compared to the comparable period of 1930. May was the third month of the year to show a gain over the same month of 1930, while January and April showed slight declines. The total to date in 1931 amounts to $17,362,566, compared to $17,020,881 in the same period of 1930.

New Campaigns

PREVENTS SUNBURN

Lehn & Fink Products Co., New York, has appointed Lennon & Mitchell, New York, to direct the advertising of "Lysol" disinfectant. The "Dorothy Gray" account has been placed with Mark O'Dea & Co. of that city.

Lehn & Fink is also introducing a new sunburn preventive which is said to filter out the actinic rays. The new product will be packaged in tubes to retail for 50 cents and be called Lehn & Fink Sunburn Preventive.

FADDY PACKAGE

Bliss Syrup & Preserving Co., Kansas City, is conducting a direct mail campaign on the fallacies of the "faddy" package using, as a basis of its copy, the editorial prepared by Harry J. Higdon for "The Phoenix Flame" and current advertising of the Phoenix-Hermetic Co.

RI-AN TABLETS

Heneph Corp., Kingston, N. Y., pharmaceuticals, is planning a newspaper campaign featuring "Ri-an Tablets," through its agency Street & Finney, New York.

PRINCESS PAT

Princess Pat, Ltd., Chicago, toilet preparations, is planning a newspaper campaign, directed by Shuman-Haws Co., that city.

TOILET FRAGRANCE

Sanitary Laboratories, Ltd., Fullerton, Calif., makers and National Distributors, Ltd., Los Angeles, distributors of "Toilet Fragrance", deodorant and germicide, have inaugurated an advertising campaign under the direction of Danbacher & Horner, Ltd., Los Angeles.

WON SUE FUN

Won Sue Fun, Inc., New York, toilet goods and cosmetics, is planning an advertising campaign directed by Charles A. Weeks & Co., Inc., that city.

SUMMER QUININE

Paris Medicine Co., St. Louis, is planning a summer campaign on "Bromo-Quinine," using large city newspapers. Williams & Cunningham, Chicago, is the agency.

Airing Eno

J. C. Eno, Ltd., announces that, beginning July 6, the Eno Crime Club will go on a nationwide hookup over the Columbia Broadcasting System on Monday and Wednesday evenings.

Airing Vita-Ray

Ayer Co., Boston, Mass., has started a series of broadcasts on its "Vita-ray" face cream, on Saturdays at 9.30 P. M. over the Yankee Network.

Coupons

Andrew Jergens Co.'s advertisement, "You can have exquisite hands", appeared in five magazines and pulled a total of 73,383 coupon replies.

Trade Merger

"The Glass Packer", a journal of the food packing industries, has announced the purchase of "The Glass Container". Beginning with the July issue, both journals will be published as a single magazine, "The Glass Packer", under the independent direction and management of Ogden-Watey Publishers, Inc.

Since 1921, "The Glass Container" has appeared monthly as the organ of the Glass Container Association of America. While it has spoken always from the standpoint of the glass manufacturer, it held steadfastly to the belief that the interests of the container maker were identical with those of the container user. Thus "The Glass Container" has played an indispensable role in developing glass packing to its present very large proportions.

"The Glass Packer" has served directly the interests of the user of the container—the packer. It has provided him with a news service which previously had been almost completely lacking. It has reached

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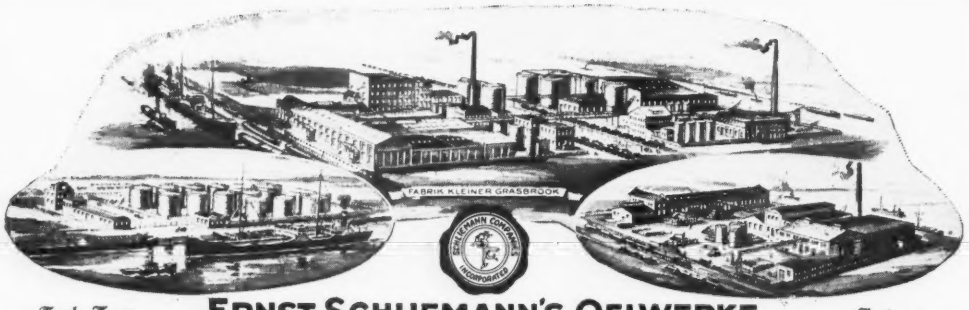

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out to the far corners of the country and gathered in technical information that was not only reliable but quite invaluable for promoting a higher quality product and more economical methods of production. It has promoted markets and forged ahead to the front rank of the business papers in its field.

Ad Manager

Owens-Illinois Glass Col, Toledo, has appointed T. K. Almroth as advertising manager. With the exception of the past two years, which he has spent with a Toledo advertising agency, he has been associated with the Owens organization.

Financial

Stocks Down

Except for a slight rally in the second week of May, the prices of common stocks of drugs and cosmetics companies dropped steadily through the month to a new low for the year in the week ending June 3, according to the index of the Standard Statistics Co., New York. The prices of common stocks of 337 miscellaneous industries followed a similar trend. Detailed figures covering both indexes are given below.

1926 Average equals 100

	Drugs and Cosmetics	*337 Industrials*
May 6	124.5	93.9
13	125.9	94.1
20	119.2	86.7
27	114.8	82.9
June 3	114.0	82.0
1931 High	133.8	114.7
Low	114.0	82.0
1930 High	174.7	174.1
Low	115.8	98.2

Vadsco Reduces

Vadsco Sales Corp., holding company and sales manager for V. Vivadou, Inc., American Druggists' Syndicate, and the Kny-Scheerer Corporation, has approved a plan for a reduction in the stated value of the common stock from $7,974,533 to $1,021,573, thereby establishing a surplus of $6,952,960. The change in the capital structure permits a deficit of $1,755,309 shown in the balance sheet as of December 31, 1930, to be charged to surplus, leaving a balance in the surplus of $4,997,651.

Goodwill carried at $7,952,309 will be reduced to $4,000,000, which absorbs $3,952,309, leaving a balance of $1,045, 341 in the surplus account. The stockholders also approved a reduction of authorized preferred stock from 125,000 shares to 117,393 shares, and a reduction in outstanding preferred to 69,893 shares by retiring 7,607 shares held in the treasury. All officers of the company have been re-elected.

Earnings

U. S. ALCOHOL

U. S. Industrial Alcohol Co., New York, reports for year ended December 31, 1930, net loss of $1,895,247 which compares with net income of $4,720,858 in 1929. In 1930, company wrote off $3,000,000 in reducing inventory to market values. Earnings per share on 373,846 shares of common amounted to $2.95 as compared with $12.63 per share in 1929. Earnings were based on net profit of $1,104,753 before charging inventory reduction of $3,000,000. Profit and loss surplus was reduced by $4,138,311, bringing it to $10,855,186 as compared with $15,238,355 last year.

H. RUBINSTEIN

Helena Rubinstein, Inc., New York, reports net profit of $554,465 for year ended 1930. This compares with $794,277 in 1929, and was after depreciation and taxes. Earned surplus as of December 31 was $565,852 in 1930 as compared with $454,425 in 1929. Earnings for 1930 were equivalent to 72 cents per share on 294,492 shares of common outstanding as compared with $1.45 per share on 295,842 shares in 1929.

ABBOTT

Abbott Laboratories, Inc., Chicago, reports net income for the first five months of 1931 of about $279,000 after all charges, including Federal taxes, according to J. F. Stiles, Jr., treasurer of the company. This would be equal to about $1.92 per common share, representing an increase of 10 per cent. over the combined earnings of the company and the Swan Myers Co. in the same period of 1930. This increase in net was achieved in the face of a 4 per cent. decrease in sales, it was stated.

INTERNATIONAL

International Proprietaries, Ltd., manufacturer of proprietary medicines, has reported for year ended December 31, 1930, a net income of $995,873, which was equal to $4.44 per share on the class A stock and $2.93 per share on the class B issue. Net income reported in 1929 by the company before Federal taxes was $1,270, 482. The balance sheet as of December 31, 1930, showed current assets of $2,754,014, including $697,040 cash, against $759,924 current liabilities.

CHEESEBOROUGH

Cheeseborough Mfg. Co. declares extra dividend of 50 cents per share and the usual quarterly dividend of $1 per share on the $3,000,000 common stock, par $25, both payable June 30 to holders of record June 9. Like amounts were paid on March 31 last. In March, June and Sept. 1929 and 1930 an extra dividend of 50 cents per share was also paid, as compared with an extra of $1 per share on Dec. 30, 1929, and on Dec. 30 1930. Extras of 25 cents per share were distributed on June 30, Sept. 29 and Dec. 28, 1928.

DOW CHEMICAL

Dow Chemical Co.'s financial statement for fiscal year ended May 31 will show about $900,000 available for transfer to surplus making a total surplus of about $6,000,000. This will be after charges of approximately $1,260,000 including dividends on preferred and common and writing off the usual yearly depreciation, according to James T. Pardee, vice-president and secretary of the company.

P. D. Extra

Parke Davis & Co. declares a special dividend of 10 cents per share and the regular quarterly dividend of 25 cents per share, both payable June 30 to holders of record June 19. Similar dividends were paid on March 31 last.

Armstrong Cork

Armstrong Cork Co. reports for four months ended April 30, 1931 (exclusive of foreign subsidiaries), net income of $472, 388 after depreciation, obsolescence, bond interest, etc., comparing with $384,966 in the first four months of 1930.

Colgate-Omega

Colgate-Palmolive-Peet Co., Chicago, has taken over, for $3,000,000 cash, Omega Chemical Co., New York, with branches in England and France.

Lambert Dividend

Lambert Co. declares regular quarterly dividend of $2 per share on common, payable July 1 to holders of record June 17.

Hinde & Dauch

Hinde & Dauch Paper Co. reports net profits of $201,825 for calender year 1930 as compared with $434,261 for 1929.

New Companies

Lambert Chemical Co., Inc., Philadelphia, chemicals, $500,000 capital.

Vine-Glo Corp. of New York, fruit juices, 30,000 shares common.

Honkorn, Inc., Newark, N. J., manufacture drugs and chemicals, L. F. Feinseth, $50,000.

Commercial Products, Inc., Hasbrouck Heights, N. J., manufacture drugs, chemicals, William K. Voeringer, $25,000 preferred, 500 shares common.

Tannol Co., Yonkers, N. Y., chemicals, Wallin, Beckwith & Edie, 100 shares common.

Medical Research Council, Brooklyn, N. Y., chemists, S. Akelmacher, $200,000.

Zurcon Chemical Co., New York, A Sehwartz, $25,000.

Lacross Chemical Co., Brooklyn, G. Garfunkel, New York, 200 shares common.

Cleanzine Manufacturing Co., Brooklyn, toilet articles, B. R. Witt, $10,000.

Saltrazes, Inc., New York, chemicals, T. E. Caruse, John F. Murray, New York, and W. H. Kirn, Detroit, 1,000 shares common.

Iodine Products, Inc., Wilmington, Del., 125,000 shares common.

Coty, Societe Anonyme, Paris, has declared a dividend of 50 francs per share for the year 1930 as against 60 francs for 1929.

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International Cosmetic Co., Inc., New York, has been incorporated with capital of $250,000 to manufacture cosmetics. Charles H. Duell, Griffith Beems and R. W. Henderson are directors and subscribers.

Kwik Cosmetic Corp., New York, has been incorporated with capital of $25,000 to manufacture cosmetics. Louis Halk, Edna Halk and John Kocher, all of that city, are the directors.

Owens-Illinois Glass Co., Ltd., has been incorporated under the laws of California by the Owens-Illinois Glass Co., Toledo, to build a new Pacific Coast plant.

Drugs and Depression

In pronounced contrast to the severe earnings recession suffered by most industrial corporations, manufacturers of drugs and related products generally are experiencing satisfactory operating results. The five companies so far having issued first quarter 1931 statements reported net income only 6 per cent. lower than that recorded in the initial three months of 1930. While a greater number of units would be required to present a truly representative picture of the industry, these tendencies correspond generally with those disclosed by our field investigations, says "Standard Trade & Securities". Out of eight important organizations, five have experienced a sales volume so far this year equal to, or moderately above, that recorded a year earlier. In practically every case, earnings comparisons conform closely to sales experience.

MORE SICKNESS

During the past winter, a greater prevalence of sickness resulted in an increased demand for a number of drug articles, notably antiseptics and certain proprietary remedies. More recent month have been accompanied by a return to practically normal sales volume for this season of the year. Export volume of medicinal and pharmaceutical products continued restricted during the initial three months of 1931. However, the 13 per cent. decline from the corresponding quarter of 1930 was somewhat smaller than the 17 per cent. contraction registered in the full year, as compares with 1929.

THREE FACTORS

Three factors have combined to enable the drug and cosmetics trade to withstand the effects of the general business depression—price stability, sustained consumer demand and the ability to adjust costs quite directly with fluctuations in gross business. Wholesale prices of drugs and pharmaceuticals were subjected to rather continuous deflation throughout 1927 and 1928; the subsequent decline has been of minor proportions. Moreover, the greater number of proprietary products vary little in price. Trade marked articles such as these are rarely sold on the basis of price appeal, although a tendency in this direction recently has become manifest.

DECLINE SMALL

While aggregate consumer demand for drugs and cosmetics may recede in times of depression, the maximum decline is not likely to be of sufficient proportions to necessitate major readjustments. From 1919 to 1921, according to the census of manufacturers, total value of these products receded only moderately and one sub-group—perfumes, cosmetics and other toilet preparations—advanced. In general, the individual buyer makes his drug purchases in small quantities and these are replaced at quite regular intervals, thus assuring a relatively constant flow of goods from producer to consumer. This process, in our opinion, would be seriously interrupted only by a definite and sustained lowering of the standard of living. For it is our belief that the bulk of articles classified as drugs and cosmetics should be regarded as fundamentally neither necessities nor luxuries; rather are they inseparably associated with the American standard of living.

EQUAL TO LAST YEAR

On the basis of these considerations, together with confirmatory reports from the trade, we anticipate a total sales volume for 1931 about equal to that registered for last year. In the aggregate, earnings probably will not depart widely from the levels of 1930; the maximum decline should not exceed ten per cent.

Some uncertainty attaches to the earnings outlook for a few individual concerns, because of the increasing competition of certain lines. In the toothpaste division, for example, the trade is somewhat overbuilt. From 1927 to 1929, the value of dentifrices manufactured increased but slightly, from $30,692,834 to $31,440,961. However, not only have new brands been introduced, but mounting sums have been expended to advertise established lines. Apparently, the chief inducement has been not a rapidly expanding market, but rather the high profit margins which have rewarded the successful producers.

In the antiseptic field, the value of manufactures gained from $17,863,540 in 1927 to $21,805,364 in 1929. Nevertheless, the recent introduction of new antiseptics by companies whose respective trade names are widely known injects a considerable measure of uncertainty into the outlook in this field. High profit ratios undoubtedly have been responsible for much of this expansion, although the general desire to secure product diversification likewise has been a contributing influence. Under prevailing conditions, the present situation in this field requires close observation, particularly as to whether price appeal will receive increasing emphasis, as it has, to a certain extent, in the dentifrice trade.

Utter lack of uniformity in the cosmetics, perfume and toilet preparations division precludes any generalized conclusion relative to this field. Apparently, there has occurred a marked shift in popular preference for individual brands. Not only has this development taken place on the basis of price, but likewise on the basis of quality and trade name. Certain of the less prominent concerns currently are reporting an improvement in sales and earnings. Among the larger companies which have benefited materially from these transitional forces within the industry is Affiliated Products. Coty, Inc., on the other hand, apparently has been adversely affected to date.

Drug Employment

R. A. Whidden, president, Bauer & Black Co., Chicago, in a survey made for the President's Emergency Committee for Employment, reports that industrial depression has had little effect upon employment in the drug manufacturing industry.

"The entire drug manufacturing industry normally employs approximately 50,000 persons, including both wage earners and salaried personnel. Our survey indicates that at least 90 per cent. or more, are now at work. The reports show that managements of member firms are keenly alive to the importance of studying the unemployment situation and will continue to do their part in meeting the emergency situation."

Golf Outings

Four golf outings have been planned for the coming season for the members and guests of the Salesmen's Association of the American Chemical Industry. The outings are scheduled for June 23, July 22, August 18, and September 15.

The first tournament on June 23 will be held at Canoe Brook Country Club, Summit, N. J. The charge for this will be $8.00 for members, and $10.00 for guests including everything—greens fees, lunch, dinner, tips, and prizes. If dinner is not planned on $2.00 can be deducted. This tournament will be under the direction of Grant A. Dorland, MacNair-Dorland Co., and Robert L. Wilson, Dow Chemical Co. Entries must be made to the former at 136 Liberty st., New York, by noon, June 22.

The second tournament will be held on July 22, at Lennox Hills Country Club, Farmingdale, L. I. The charge will be $5.00 for members and $7.00 for guests, including greens fees and prizes. Lunch and dinner can be paid for at the club. This outing will be under the direction of Thomas R. Farrell, DRUG MARKETS, 101 W. 31st St., New York, with whom entries must be filed by noon, July 21.

The third meeting will be August 18 at the Dunwoodie Country Club, Yonkers, N. Y., and the fourth at Briarcliff Lodge, Briarcliff Manor, N. Y., September 15. More detailed announcements will be made later concerning these two.

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Patents

UNITED STATES PATENTS

Hydroxy Pyridine Compounds

These therapeutic agents are made by treating pyridine compounds with aqueous hydro-halic acids, that is solutions of hydrochloric acid, hydriodic acid and hydrobromic acid. One of the hydrogens in the pyridine group may be a halogen, while the other hydrogen atoms may also be substituted by halogens or by hydroxy groups or nitro groups or amino groups or by arsonic acid group. It is also possible to substitute the hydrogens by aryl and alkyl groups. A large variety of pharmaceutical products may be obtained. Curtt Raeth, Berlin, Germany, assignor, Schering-Kahlbaum A. G., Berlin, Germany. U. S. P. No. 1,778,784, filed April 10, 0928.

Alkylated Phenols

These pharmaceutical products, made from dihydroxydiphenyl methane derivatives, and containing alkyl or aryl radicles, are subjected to treatment with hydrogen at 160° C. in the presence of a slow acting hydrogenation catalyst. The reaction results in splitting up the molecule at the point where the carbon atom connects the two phenol radicles. Hans Jordan, Berlin-Steglitz, Germany, assignor, Chemische Fabrik auf Actien (vormals E. Schering), Berlin, Germany. U. S. P. No. 1,782,966, filed July 12, 1926.

Aromatic Hydroxy-Aldehydes

Aromatic hydroxyaldehydes are made by treating hydroxy-aralkylamines with a compound containing a general ketonic nucleus. G. Reddelien, Leipzig and Hans Lange and Hugo Pfannenstiel, Dessau in Anhalt, Germany, assignors, Winthrop Chemial Co., New York. U. S. P. No 1,783,584, filed June 27, 1928.

Borneol and Limonene

Borneol and limonene are produced by means of a catalyst—silica gel. The starting material is pinene or materials containing pinene in appreciable quantities. These are treated with organic acids. The limoene is distilled. The remaining borneol ester is saponified and also recovered. Yoshio Tanaka, Tokyo-Fu and Tsutomu Kuwata, Tokyo-Fu, Japan. U. S. P. No. 1,784,165, filed July 8, 1929.

Agar Emulsion

A new medicinal product is made in the form of a relatively mobile, liquid petrolatum-agar-water emulsion by boiling water with agar-agar and agitating until cool. Petrolatum and other ingredients, that may be added, are then admixed so that a stable emulsion is formed. Leon A. Wilson, Los Angeles, Calif. U. S. P. No. 1,784,324, filed August 16, 1923.

Thymol

Thymol is made from crude cresol (a mixture of meta-cresol and para-cresol) which mixed with acetone and condensed in the presence of an acid condensing agent. The product obtained is then decomposed and treated with hydrogen in presence of catalyst until two atoms of hydrogen have entered into combination. Then the mixture, consisting of thymol (3-methyl-1-6-isopropyl-phenol) and also para-thymol, is subjected to careful fractional distillation, so as to separate out the para-thymol from the thymol. Hans Jordan, Berlin-Steglitz, Water Schoeller, Berlin-Westend, and Reinhard Clerc, Berlin, Germany assignors, Chemische Fabrik auf Actien vormals E. Schering, Berlin, Germany. U. S. P. No. 1,784,598, filed August 15, 1927.

Saturated Phenols

Saturated phenols are made by condensing an alkyl phenol and an aliphatic ketone in presence of an acidic condensing agent. The condensation product is then subjected to hydrogen under pressure in presence of a catalyst between 180° and 320° C. The resulting products are saturated phenols. Hans Jordan, Berlin-Steglitz, Walter Schoeller, Berlin-Westend and Reinhard Clerc, Berlin, Germany, assignors, E. Schering, Berlin, Germany. U. S. P. No. 1,784,599, filed August 15, 1927.

Preparation of Petrolatum

Petrolatum of a high degree of purity is prepared by this process. The starting material may be a substance which contains petrolatum and carbonizable substances. This mixture is subjected to the action of fuming sulfuric acid at an elevated temperature. The acid treatment is continued until the carbonizable substances are converted into non-liquid carbonaceous bodies. Then the residual petrolatum is separated. Francois Lavirotte, Lyon, France, assignor, Standard Oil Development Co. U. S. P. No. 1,785,270, filed September 30, 1925.

Di-Alkyl Ureas

Products of this type are made by heating urea in the presence of a primary amine of the aliphatic series. Symmetrical di-alkyl-ureas are thus obtained. Tenney L. Davis, Norwell, Mass. U. S. P. No. 1,785,730, filed November 5, 1927.

Guanidine Derivatives Containing Sulfur

These sulfur-containing guanidines possess therapeutic properties. Either acyl or hydrogen radicles are attached to the amine groups in the molecule. The compounds thus obtained can be oxidized and are resistant to the action of concentrated alkaline solutions and incapable of being distilled. Herbert Schotte, Berlin-Wilmersdorf, Germany, assignor, Chemische Fabrik auf Actien, vormals E. Schering, Berlin, Germany. U. S. P. No. 1,785,916, filed August 8, 1927.

Making Phenyl-Mercuric Acetate

Mercuric acetate is boiled for several hours in benzene, the boiling point of the mixture being raised to 120° to 140° C. The product is phenyl-mercuric acetate. Carl Taube, Leverkusen-on-the-Rhine, Germany, assignor, Winthrop Chemical Co., New York. U. S. P. No. 1,786,094, filed August 1, 1929.

Vitamin A From Fish Oils

Fish oils are saponified with alcoholic caustic solution and the fatty acids converted into alkali metal soaps. The alcoholic vitamin and soap mixture is treated with an alcoholic solution of alkaline earth metal chloride to precipitate insoluble alkaline earth metal soaps which are filtered from the alcoholic solution of vitamin A. The latter is then recovered and purified. Katsumi Takahashi, Toyotama-Gori, Japan, assignor, Zaidan Hojin Rikagaku Kenkyujo, Tokyo, Japan. U. S. P. No. 1,786,095, filed May 2, 1923.

Mercury Derivative of Tetra-Iodofluorescein

Various metallic salts of mercury derivative of tetra-iodofluorescein are made and are reported to possess outstanding germicidal therapeutic properties. These products consist of neutral stable alkali metal salts of the mono-mercury derivative of tetra-fluorescein without any excess of alkali. Louis M. Roeg, Worcester, Mass., assignor, Brewer & Co. Inc., Worcester, Mass. U. S. P. No. 1,786,172, filed November 11, 1927.

Compounds of Thiazolic Series

The process of making these compounds consists in allowing a salt of sulphocyanice acid to act on primary arylamines, wherein the para position to the amino group is either substituted by a mono-

CAMPHOR SYNTHETIC

Chemically identical with
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Fine natural odor--white crystals. For lower costs in mentholating mouth washes, tooth pastes, shaving creams, etc.

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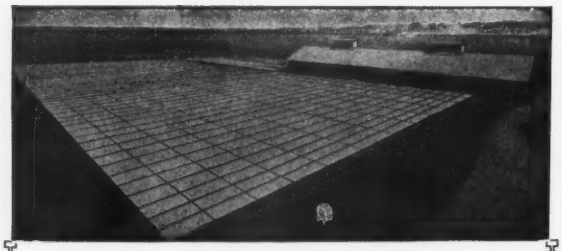

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valent radicle or blockaded, in the presence of a halogen. The new products contain sulfur and probably a thiazole in its molecule. It is a crystalline substance when dry and melts at 203° C. when recrystallized from spirit. Hans P. Kaufmann, Jena, and Max Schubert, Fechenheim, Germany, assignors, I. G. Farbenindustrie A. G., Frankfort-am-Main, Germany. U. S. P. No. 1,787,315, filed April 12, 1927.

Accessory for Containers

The container is collapsible tube with a rigid top having a bead flange at the periphery. The attachment to the tube, which is the feature of this device, engages the flange at the top, while the accessory member for the top extends past the flange to grip the attachment and hold it in engagement with the tube. Frank Wolf, New York. U. S. P. No. 1,787,061, filed December 24, 1928.

Pharmaceutical Product

This product consists of a mixture of hyoscyamin and scopolamine. Emil Starkenstein, Prague, Czechoslovakia, assignor, Chemische Fabrik auf Actien, vormals, E. Schering, Berlin, Germany. U. S. P. No. 1,786,873, filed February 16, 1927.

GERMAN PATENTS

Esters of Isoborneol and Borneol

These esters are made by action of fatty acids on camphene in presence of sulphuric and hydrochloric acids. The process consists in first mixing the fatty acid and camphene, then cooling to 0° C., and adding mineral acids, which are used as catalysts. Schering Kahlbaum A. G., Berlin, G. P. No. 508,093 filed April 12, 1925.

Menthol

The feature of this process of making menthol is that the hydrogenation reaction is allowed to progress until eight atoms of hydrogen are added to the molecule. Schering Kahlbaum A. G., Berlin. G. P. No. 508,095, filed November 25, 1927.

Acyl Compounds of K-Strophanthidin

These products are made by treating k-strophanthidin with other acylating agents of the aliphatic series in presence of tertiary amines and with avoidance of high temperatures. Schering Kahlbaum A. G., Berlin. G. P. No. 508,097, filed January 19, 1927.

Stable Vitamin Solutions

Stable solutions of vitamins are obtained by using liquid, water-soluble amides of the lower fatty acids, or by use of liquid mixtures of water-soluble amides of lower fatty acids. I. G. Farbenindustrie A. G., Frankfurt-am-Main. G. P. No. 508,503, filed October 23, 1928.

Stable Solutions of Arseno-Benzenes

These compounds containing free aldehyde or ketonic groups interchanged with the nitrogen-containing radicles, are mixed with pyrazolon derivatives of non-acid character. I. G. Farbenindustrie A. G., Frankfurt-am-Main. G. P. No. 508,334, filed February 10, 1928.

1:8-Cineol Containing Oil Mixtures

These mixtures are obtained by treatment of terpene compounds with water-splitting agents. Thus terpin hydrate, terpin, terpineol, terpinenol are treated below 80° C. with sulphuric acid, phosphoric acid, hydroxy-acids, sulphonic acids and the like. Rheinische Kampfer Fabrik G.m.b.H., Duesseldorf-Oberkassel. G. P. No. 519,447, filed April 16, 1929.

Urea Pharmaceuticals

These products are produced by allowing sodium iodide to combine molecularly with urea in proportion of equal molecules of each. Gehe & Co., A. G., Dresden and Dr. Alfred Roseno, Koeln Am Rhein. G. P. No. 509,265, filed February 3, 1929.

Serums for Innoculation

These serums are prepared in the usual manner from swollen up cell particles in water obtained from glandular animal organs. These preparations are allowed to freeze intensely. After cold treatment has lasted long enough, preparations are allowed to thaw. Filtered cell juice is converted into corresponding vaccine after addition of bacteria. Dr. Georg Schroeder, Schoenberg bei Wildblad. G. P. No. 509,186, filed December 17, 1925.

Stabilizing Hydrogen Peroxide

Stabilization of solutions of hydrogen peroxide is accomplished by addition of emulsions containing phosphatides and particularly by means of lecithin-containing emulsions. Chemische Fabrik Gruenau Landshoff & Meyer A. G., Berlin-Gruenau. G. P. No. 509,702, filed April 26, 1929.

Phenyl Glycidic Acid

This is made from cinnamic aldehyde, which is treated with hydrogen peroxide and alkali, and under certain cases with particular advantage in presence of certain solvents. Dr. Adolf Kaufmann, Genf, Switzerland. G. P. No. 509,938, filed July 28, 1927.

Anti-Bodies Against Syphilitic Spirocheti

Syphilitic germs, which are dead and dissolved in lecithin emulsions and which later become virulent, are injected in several doses increasing in amount into the stomach and chest cavities and into the blood stream of animals. Then the blood, the inflamed chest and stomach cavities exudations, the lymphatic glands, the spleen and other organs of the animals are extracted with glycerin and soda solution. Dr. Salo Bergel, Berlin-Wilmsersdorf. G. P. No. 502,655, filed February 16, 1925.

Highly Effective Anti-Serums

This process is concerned with preparation of anti-serums of the maximum efficiency, these serums being of the agglutinating, haemolytic, etc. types. The actual immunization is accomplished by incorporating the antigens of such animals, which have been sensitized by preliminary treatment against the antigens in question. The serums are then obtained in the usual manner. Dr. Ernst G. Dressel and Dr. Paul von Gara, Greifswald. G. P. No. 508,595, filed September 21, 1920.

Alcoholic Toiletries

Alcoholic toilet articles, such as eau de cologne, mouth washes, hair washes and the like are obtained without a penetrating or obstrusive alcohol odor by mixing with kaolin, talc, magnesia or the like and then compressed air, carbon dioxide, oxygen and the like gases are passed through the mixture for a prolonged time. John Langbein, Hamburg. G. P. No. 508,927, filed January 5, 1927.

Highly Acylated Guanidines

Cyanamid or its derivatives are allowed to act in almost molecular proportions on the salts of alkylamines or alkylenediamines, which contain more than five carbon atoms in the molecule. The reaction takes place at an elevated temperature. Compounds formed in this manner have a strikingly potent action on blood pressure as well as on sugar content of blood. Schering-Kahlbaum A. G., Berlin. G. P. No. 506,282, filed October 29, 1926.

Albumen-Halogen-Sulphur Compounds

A solution of halogens and sulphur in carbon disulphide is allowed to act on blood serum at an elevated temperature. The product obtained has therapeutic use in skin diseases. Aktiengesellschaft fuer Medizinische Produkte Berlin. G. P. No. 505,893, filed August 7, 1926.

BRITISH PATENTS

Pure I-Menthol

The mixture of isomerides is partly esterified, and the esters, preferably after removal of unesterified menthols, are purified by crystallization with alcohol. The product is then hydrolyzed and the pure i-menthol obtained. Rheinische Kanpfer Fabrik G.m.b.H., Duessel-dorf Oberkassel. B. P. No. 341,654, filed December 6, 1929.

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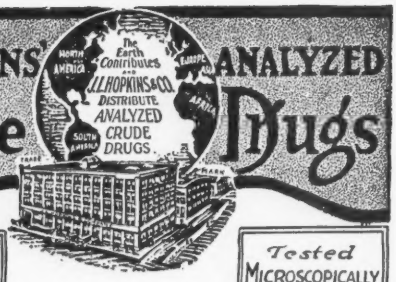

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Abstracts

Antiseptic Mouth Washes

The author first outlines the fundamental requirements of a good antiseptic mouth wash. He is principally concerned with the use of esters of para-oxybenzoic acid in making mouth washes. These esters, particularly the benzyl ester and the propyl ester, have found use for various cosmetic and medicinal purposes. Tests were made to compare the germ-destroying powers of these substances as compared with phenol and it was found that benzyl parahydroxybenzoate is 83 times more powerful than phenol in destroying the germs and 109 times more powerful in preventing their development. Propyl parahydroxybenzoate is also a much more powerful agent than phenol but not nearly so powerful as benzyl pharahydroxybenzoate. It is recommended however that the two should be used in combination, for the reason that the propyl ester reduces the irritating action of the benzyl ester. The benzyl ester can also be properly used in combinations with formaldehyde, hydrogen peroxide, phenol and other antiseptics and disinfectants. The following is an example of a good mouth wash: One thousand parts 96% alcohol, 100 parts C. P. glycerin, 50 parts 20% solution of neutral potash soap, 2½ parts benzyl parahydroxybenzoate, 12½ parts propyl parahydroxybenzoate, 5 parts Nipagin A, which is another higher ester of parahydroxybenzoate acid, 100 parts tincture of myrrh, 100 parts tincture of ratanhia, 350 parts water with one gram of saccharin, 5 parts menthol, 35 parts oil of peppermint, 3 parts cinnamon oil and 10 parts anise oil. Both the propyl and the benzyl esters are used in combination in making tooth pastes, being first dissolved in alcohol. Josef Augustin, Der Parfuemeur, volume 4, pages 733-4.

Fatty Oils In Essential Oils

A method has been developed for determining the presence of fatty oils in essential oils. A sample of the oil is dissolved in alcohol, diluted sufficiently to obtain a clear solution. Then additional alcohol is added until the solution begins to become turbid. When it is seen that the turbidity does not last when the solution is allowed to stand, water is added until it forms again. Mass is cooled in mixture of ice and salt, and fatty oil will separate out as white flakes which can be easily filtered with suction. It has been found possible to detect the presence of as little as ½% of cocoanut oil in 2 cc. of citronella oil. Chemisch Weekblad, volume 27, 276-7.

Quinine in Quinine Syrup

The thaleioquinine reaction fails to identify quinine in quinine syrup, unless the etheral extract is evaporated and the residue dissolved in dilute acetic acid. It is preferable to dilute the syrup with an equal quantity of water. Sodium hydroxide should be used in the place of ammonia. R. Guyot, Bulletin Societe Pharm. Bordeaux., volume 68, pages 115-118.

Irradiated Bath Salts

Bath salts treated with radium or activated therewith are claimed to be far superior to the ordinary preparations. The preparation consists of uniform greenish crystals, impregnated with mixture of 90 parts of oil of Siberian pineneedle oil and 10 parts essential oil preparation. It comes on the market in three different strengths of irradiation. Pharm. Monatshefte.

Acidity of Castor Oil

The investigation was concerned with determination of causes of increase in acidity of castor oil. It was found that the lipolytic enzyme passes during pressing the seed for oil, where its activity is stimulated by the water-soluble acids of low molecular weight. These are due to the fermentation of foots in unfiltered oil. Acids of high molecular weight formed by hydrolysis of oil do not exert any appreciable influence on activity of anzyme. Masloboino Zhir. Delo.

Alkalinity and Silver Content of Protargol

Certain samples of protargol and silver proteinate in treatment of the eye were found to cause irritations, although products met requirements of pharmacopoeia. It was thought this was due to excess alkalinity. It is difficult to test directly because of dark color. However, when treated beforehand with neutral sodium thiosulphate, the alkalinity can be determined by titration in ordinary manner with tenth normal solution of sulfuric acid using phenolphthalein as indicator. Samples of protargol were less alkaline than those of silver proteinate. The silver content of the drugs was also determined and it was found in this connection that, when the organic matter was oxidized by means of potassium permanganate and sulfuric acid, the results were higher and more consistent than when the precalcination method was used. A. L. Dragenesco and E. Weinberg-Sachetti, Journal Pharmacie et Chimie, volume 12, pages 536 to 539.

Zinc Sulphophenolate in Tooth Powders

Some interesting formulae have been given using zinc sulphophenolate in tooth powders. Thus 33 parts pulverized soap are mixed with 44 parts of zinc sulphophenolate, 263 parts of pumice, 132 parts of tin oxide and 528 parts precipitated chalk. Another formula calls for forty parts pulverized soap, fifty-five parts white sugar, 165 parts tin oxide, 110 parts borax, and sufficient precipitated chalk to give total weight of one thousand parts. Apotheker Zeitung.

Powders for Hair Luster

The use of acids in dyeing practice to brighten the color of a fabric or other dyed article is well known and well-established. Acid has now been used in making preparations for restoring the luster to hair, the acid most used being citric acid. Preparation may be perfumed. Deutsche Parfuemeur Zeitung.

Cosmetics and Salves

Various types of wax pastes are described and their methods of preparation. A thin wax paste can be made from 1,000 parts yellow beeswax melted and mixed with 100 parts solution of ammonia, specific gravity 0.96, and after vigorous stirring, with 4,000 parts distilled water. Pastes can also be made containing cocoanut oil. Thus 27 parts beeswax are mixed with 8 parts cocoanut oil and melted. Four parts lanolin are stirred into the mass which is first allowed to cool. A solution of one part borax in 60 parts water is then added. Pharmazeutische Zeitung.

Dangers in Using Viosterol

This article tells of the dangers incurred in using irradiated ergosterin in treatment of rickets. It is claimed that this drug is a definite specific against this desease, but the dose must be very carefully weighed out. Too large a dose can cause poisoning of the system. R. Degkwiz, Fortschritte der Therapie.

Pantopon in Syrup Guaiac Compound

Alkaloidal mixture is treated with Marquis' reagent and gives the same red color as morphine. Color changes to blue at 100° C. A test was also made with 10% silico-tungstic acid solution, which gave a voluminous precipitate. On the other hand, syrup containing morphine, does not precipitate or gives only a slight turbidity. The determination is carried out by extraction from ammoniacal solution with chloroform and methanol. O. Tomicek and O. Percoke, Casopis Ceskoslov. Lek., volume 10, pages 239-244.

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Medicated Bath Salts

The author discusses the functions of the various ingredients of these preparations and their action on human system. Irritating action of salts is claimed to be lacking in the cases where artificial products are used in their preparation. Thus when artificially prepared essential oils are used, they mostly float on surface of water and do not properly come in contact with body. When natural products are used, however, the oil is distributed in colloidal state throughout the mass. The essential oils used in bath salts have a very important detergent action on skin.

The use of various drugs, such as mustard, oak and pine bark, lavender flowers, thyme, etc. is described. The use of oat straw is asid to be questionable as to real therapeutic effect claimed in alleviating kidney and bladder troubles. An interesting preparation is one used for treating frost-bite and which consists of urea and rosemary oil in imitation of the practice of using fresh excreted urine which is an old remedy. Directions are also given for the preparation of pine needle milk, the basis of which is a soda dissolved in alcohol and then mixed with pine needle oil and oil of juniper. This preparation does not have the required irritating action on the skin and this can be remedied by the addition of an extract obtained from oak bark or other suitable tannin extract. In discussing the preparation of pine needle extracts, attention is called to the use of sulphite waste liquor, obtained as a by-product from the manufacture of sulphite pulp, in its adulteration. Preparations have been found containing as much as 95 per cent. of this adulterant. The addition of fluorescein is also discussed and it is pointed out that there is certain doubt regarding the usefulness of this product. When used, it should not be present in a proportion of more than 0.1 per cent., although 0.7 per cent. is commonly and needlessly used. H. Schwartz, Der Parfuemeur, 1931, pages 15 to 18.

Concentrated Phosphorus Solutions

This article is concerned with the preparation of concentrated phosphorus solutions for pharmaceutical use. Thus about five grams of phosphorus are dried, washed with ether, dried with filter paper and, after weighing in a tared vessel containing liquid paraffin, added to an almost full one liter flask containing liquid paraffin which has been heated to 150° C. and cooled. The mixture is heated at 60° C. for effecting dissolution. A few drops of ether are added to flask to prevent evaporation and oxidation of phosphorus. A volume of the solution, containing five grams of the element, is transferred to a slightly larger flask and is diluted to 991 grams by the addition of dry paraffin. Finally four grams of lemon oil and five grams of ether are added. M. H. P. Sitsen, Pharm. Weekblad, volume 67.

Iron and Ammonium Citrate

One of the principal characteristics of this preparation is the reaction to indicators. The preparation should be neutral, possessing a pH coefficient of 7.5. It should contain from 7 to 8% of ammonia (NH_3) and from 53 to 57% of citric acid. Tests were carried out on a series of ten commercial samples. In seven cases the sample contained more than 30% iron oxide (Fe_2O_3). The iron was determined iodometrically. A. J. Jones and N. Glass, Quarterly Journal of Pharmacy, volume 3, pages 488-98.

Leonurus Cardiaca L.

This is a wild herb which possesses a valuable activity in certain cardiac conditions. Analysis shows high content of calcium, potassium, sodium and phosphates. The plant also contains saponin and traces of an oil. The decoction that is made from this plant has a very bitter taste. While this plant is not yet used in therapy, the author feels that it will soon find use there. B. Pater, Pharmazeutische Monatscheft.

Formaldehyde in Formalin Soaps

These disinfectant soaps are analyzed in accordance with a new method to determine the amount of formaldehyde contained in them. The principle of the method consists in first decomposing the soap to liberate fatty acids by means of sulphuric acid, separating these acids, filtering, adding iodine to the filtrate and then titrating with standard solution of sodium thiosulphate. This gives the formaldehyde content. Johan Frylund, Farmaceutisk Revy. 1930, number 24.

Morphine in Opium

A number of methods are reviewed and criticized. It is reported that physical methods are those based on direct precipitation or oxidation of morphine do not give reliable results. The ammonia method and the milk of lime method both give good results. An important point to remember in this work is that appreciable oxidation of morphine to oxydimorphine occurs in alkaline solution even at the ordinary temperature. F. Reimers, Dansk Tidsskr. Farm., volume 4, 230-258.

Permanent Wave Preparation

The solution consists of saturated borax solution, which is perfumed and mixed with a dyestuff resistant to alkali. The purpose of the borax is to soften the hair, so the waves can be properly formed. A permanent wave preparation claimed to give superior results consists of five parts gum arabic, twenty-three parts sodium bicarbonate, one part sodium benzoate, 300 parts distilled water and perfume and color as desired. Pharmazeutische Zeitung.

Iodated Piperazine Derivative

This new derivative of piperazine is made in following manner. Iodine is allowed to act on piperazine in presence of water at ordinary temperature with di-iodo-piperazine and piperazine hydriodide being formed. Thus 44 grams of piperazine are ground in a mortar and 20 grams of pulverized iodine are added. A clear yellow mass is obtained which is treated with 30 cc. of water. The iodine is completely absorbed. At the conclusion of the reaction, an additional 150 cc. of water are added and the mixture is heated on a water bath at 70° to 80° C. The whole mass then passes into solution The solution is evaporated on the water bath and residue treated with alcohol and washed with ether. A colorless product, weighing 25 to 27 grams, is obtained in the form of crystalline needles. Otolski. Bulletin de la Societe Chimique.

Mercury in Pharmaceuticals

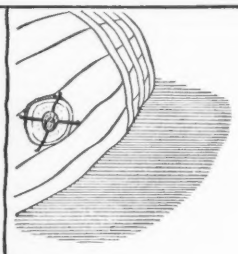
A thorough review of the various methods proposed and used for determination of mercury in pharmaceuticals forms an important part of this report. A modified chemical method is outlined in detail as adapted to analysis of pharmaceutical substances. The principle of the method consists in first treating the sample with potassium iodide and to then use a special reagent made by mixing copper sulphate with ethylenediamine. The precipitate is filtered, washed and weighed. Ether-light petroleum extraction is required for plasters and ointments. F. Reimers, Dansk Tidsskr. Farm., volume 4, pages 213-229.

Detection of Juglone

This substance cannot be detected by the micro-sublimation method given in the German pharmacopoeia. This test refers to the determination of substance in leaves of walnut tree, juglans regia, whether fresh or dried for three days or in the pericarps, sliced, and dried for eight days. Tests show, however, that juglone is found in all three but not in leaves dried for longer periods by sublimation of a chloroform extract. Attempts made to sublime alpha-hydrojuglone or beta-hydrojuglone obtained from fresh pericarps or their extracts, were unsuccessful. R. Fischer and F. Stauder, Pharm. Zentralb., year 1931, pages 97 to 100.

Chemical Constitution of Tropanol

The two characteristic groups of tropanol, the secondary alcohol and the tertiary amine, play important roles in the action of the drug. The position of the hydroxyl radicle does not have any influence. Its transformation into the ketonic radicle renders the action irregular. It appears that the presence of oxygen near the third carbon is important. Arch. Intern. Pharmacod. et Therapie, volume 38, pages 271-8.



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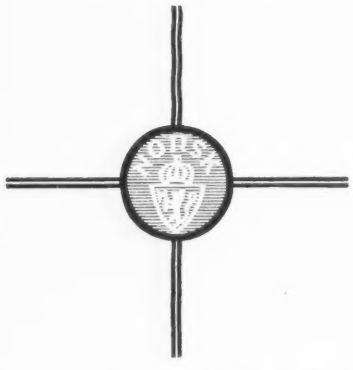

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Arsenous, USP, 220 lb bbls lb.	...	.18
Benzoic, USP, 100 lb bbls.lb.	.60	.61
Boric, 300 lb bbls.....lb.	.09½	.10
Cacodylic, 5 lb. bot.....lb.	...	8.00
Camphoric, USP, VIII 1 lb bot.....lb.	4.82	4.82
Carbolic, USP, crys 112 lb tins.....lb.	.17	.18
Cinnamic, 5 lb cans.....lb.	*3.25*	*3.50*
Citric, USP, crys 230 lb bbl .....lb.	...	.36
USP, crys imp. 112 lb keg .....lb.	.41	.43
USP, powd 200 lb bbl...lb.	...	.30½
Diethylbarbituric, 1 lb bot lb.	4.00	4.50
Gallic, USP, 150 lb bbls..lb.	...	.74
Glycerophosphoric, 25% 1 lb bot.....lb.	1.40	1.75
Hydriodic, USP, 10% 5 lb bot.....lb.	...	.70
Hydrobromic, USP, 40% 155 *lb. cbys.....lb.*	...	.55
Hypophosphorous, USP, 30% .....lb.		
5 gal demis.....lb.	...	.85
Lactic, USP, VIII 100 lb cbys lb.....	.53	.59
USP, X 100 lb cbys.....lb.	.57	.59
Phenylcinchonic.....lb.	...	*3.25*
Phosphoric, USP, Syr 70 lb drs.....lb.	.14	.15
Pyrogallic, crys 5 lb cans..lb.	*1.30*	*1.40*
Resublimed, 5 lb cans...lb.	1.60	1.70
Salicylic, USP, 100 lb bbls.lb.	.40	.45
Stearic, double pressed, bags .....lb.	.12½	.13
Triple pressed, bags,...lb.	.14½	.15
Succinic, 100 lb bbls.....lb.	...	1.35
Sulfurous, USP, 6% 100 lb cbys.....lb.	.05	.06
Tannic, USP, fluffy 50 lb bbls. .....lb.	.90	.93
Powd 200 lb bbls.....lb.	.80	.85
Tartaric, USP, 300 lb bbls.lb	.32	.33
Aconitine, Alk, crys 1 oz vials .....oz.	...	30.00
Amorphous, 1 oz vials...oz.	...	20.00
Adeps Lanae, hyd 350 lb bbls lb.	.14½	.15
Anhydrous, 350 lb bbls....lb.	.15	.16
Agaricin, 1 oz vis incl.....oz.	...	2.32
ALCOHOL, Benzyl, 5 lb bot lb.	1.20	1.35
Ethyl, USP, 190 pf 50 gal bbls.....gal.	...	2.56
Grain bbls.....gal.	...	2.61
Pure tax free drums...gal.		
Ethyl.....	...	.42
Grain.....	...	.47
Denatured, (drums included) add 5c for bbls.		
No. 1 spec.....gal.	.27	.35
No. 5 comp.....gal.	.27	.35
23 a, spec.....gal.	.30	.38
39 b, spec.....gal.	.39	.47
40 m, spec .....gal.	.33½	.42½
Isopropyl refd 98-99% drs .....gal.	.95	1.25
Phenylethyl, 1 lb bot.....lb.	4.30	4.50
Aloin, USP, 100 lb cases....lb.	1.73	1.78
Aluminum Acetotartrate kegs .....lb.	...	1.60
Amidipyrine, 10 lb boxes....lb.	4.25	4.45
AMMONIUM, Acetate 100 lb kegs.....lb.	.38	.40
Benzoate, USP, 1 lb bot...lb.	...	1.27
Borate, 10 lb bot.....lb.	...	.35
Bromide, USP, 450 lb bbls.lb.	.38	.39
Imported, 112 lb boxes..lb.	.39	.41
Carb, USP, lump 100 lb kegs .....lb.	...	.13½
USP, powd 100 lb kegs..lb.	...	.14½
Citrate, 100 lb kegs.....lb.	.90	1.30
Ichthyolate, as to brand..lb.	4.00	4.50
Iodide, USP, 25 lb jars...lb.	...	5.20
Phosphate, dibasic 250 lb bbls .....lb.	.48	.50
Salicylate, USP, 100 lb kegs .....lb.	1.15	1.20
Valerate, USP, 25 lb jars...lb.	2.75	2.90
Amylene Hydrate, 1 lb bot..lb.	...	7.10
Antipyrine, USP, 100 lb cans.lb.	2.25	2.60
Apomorphine Hydrochloride, ¼ oz. vials.....oz.	22.60	22.70
Arecoline Hydrobrom, 1 oz vials .....oz.	7.75	8.75
Aspidospermine Amorphous..oz.	...	*15.00*
Atropine Alk, USP, 1 oz. vials .....oz.	6.50	7.00
Methyl bromide, 1 oz vials.oz.	...	*25.00*
Sulfate, 5 oz cans.....oz.	...	2.50
Single ounce.....oz.	...	3.00
Barium Iodide, 5 lb box.....lb.	...	5.15
Sulfate, X-ray diagn bbls..lb.	.09½	.10
BAY RUM Porto Rico, 45 gal. bbls.....gal.	.75	.80
Domestic syn. 50 gal bbl..gal.	*.70*	*.75*
St. Thomas, 50 gal bbls...gal.	.80	.90
Benzonaphthol, 5 lb boxes...lb.	2.50	2.60
Benzoyl Cholride, 500 lb dr..lb.	*1.00*	*1.05*
Benzyl Benzoate, Medicinal FFC.....lb.	1.20	1.40
Chloride Redis, 160 lb cby.lb.	.30	.35
Formate, 1 lb bot.....lb.	3.25	3.50
Succinate, 160 lb cby.....lb.	...	5.25
BISMUTH, *metal 100 lb cases* .....lb.	...	1.40
Ammon. Citrate, USP, 5 lb cans.....lb.	...	3.25
Betanaphtholate, 5 lb box.lb.	...	*2.90*
Citrate, USP, 5 lb cans...lb.	...	2.60
Chloride.....lb.	...	3.00
Hydroxide.....lb.	...	*2.90*
Nitrate, 25 lb jars.....lb	...	1.25
Oxide anhydrous.....lb.	...	3.25
Oxychloride, 25 lb boxes...lb.	...	2.95
Salicylate, 25 lb boxes....lb.	...	1.65
Subcarbonate, USP, 25 lb boxes.....lb.	1.70	1.75
Subcarbonate, X-ray diag 1 lb. bot.....lb.	2.65	2.72
Subgallate, USP, 25 lb boxes .....lb.	1.75	1.80
Subiodide, 5 lb lots.....lb.	...	4.10
Subnitrate, USP, 25 lb jar.lb.	1.50	1.55
Subsalicylate, USP, 25 lb boxes.....lb.	2.55	2.60
Tannate.....lb.	...	2.30
Borax, crys USP, 400 lb bbls.lb.	...	.06
Bromoform, USP, 5 lb bot cases .....lb.	1.65	1.90
Butylchloral Hydrate bot....lb.	4.00	5.00
Cadmium Iodide, 10 lb bot...lb.	...	*4.55*
CAFFEINE Alk, USP, 1..... 100 lb kegs.....lb.	2.45	2.50
Citrated, 50 lb cans.....lb	2.20	2.45
Hydrobromide, 1 lb bot...lb	4.80	5.00
Hydrochloride, 1 lb bot...lb	6.05	6.55
Sulfate, 1 lb bot.....lb.	5.40	5.90
Sodium Benzoate, tins....lb.	...	3.05
Salicylate, tins.....lb.	...	2.95
Calcium Bromide, 100 lb cs..lb.	...	.60
Carb, USP, 175 lb bbls....lb.	.05	.06
Glycerophos, 250 lb bbls...lb.	...	1.40
Hypophos, USP, 25 lb cans lb.	.55	.60
Iodide, 5 lb bot.....lb.	...	4.85
Lactate, USP, 500 lb bbls lb.	.45	.50
Lactophosphate Soluble...lb.	...	1.20
Powdered tins.....lb	...	1.00
Insol, powd tins.....lb.	...	.50
Phosphate & Sulfate Tooth Paste grade, Works..lbs.	.03	.06
Sulfide, USP, 100 lb drs...lb.	.21½	.24
CAMPHOR, Jap. ref. slabs 100 lb. cases.....lb.	.54	.55
Refined powd.....lb.	.55	.56
¼ oz tab, 100 lb cases....lb.	.67	.68
Liniment, bbls.....gal.	2.20	2.30
Monobrom, 100 lb cases...lb.	1.85	1.90
Casein edible, 100 lb kegs...lb.	.45	.55
Charcoal Animal medicinal jars incl.....lb.	...	.50
Charcoal Wood, powd, 100 lb. bbls.....lb.	.06	.07
Chloral Hydrate, USP, 25 lb iars.....lb.	.78	.80
100 lb drums.....lb.	.73	.75
Cholesterin.....oz.	5.50	5.85
Chloroform, USP, 50 lb drs...lb.	.25	.27
Chlorophyll, 1 lb. bot.....lb.	2.12	2.30
Chromium Sulfate Scales, tins .....lb.	.45	.50
Powdered tins.....lb.	.50	.55
Chrysarobin, 50 lb tins.....lb.	3.75	4.10
Cinchonine Alk, 100 oz tins.oz.	...	.38
Crystal.....oz.	.43	.46
Sulfate, 100 oz tins.....oz.	...	.25
Cinchonidin Sulfate, 100 oz tins .....oz.	.35	.35
Cincophen, U.S.P. bbls.....lb.	3.25	...
boxes, drms., kegs.....lb.	3.35	3.50
Cocaine Alk, USP, 1 oz vial..oz.	...	*11.07*
Hydrochloride, USP,.....oz.	...	8.50
CODEINE Alk, 1 oz vials, 10 lots.....oz.	...	10.52
Hydrobromide.....oz.	...	8.92
Hydrochloride.....oz.	...	9.52
Nitrate, oz vl 10 oz lots....oz.	...	*9.80*
Phosp. oz vl, 10 oz lots....oz.	...	7.92
Salicylate.....oz.	...	8.25
Sulfate, oz vl, 10 oz lots....oz.	...	8.42
Colchicino Alk, USP, 1 oz vl.oz.	...	*20.00*
Salicylate, 1 oz vls.....oz.	...	35.50
Cream Tartar, USP, 300 lb bbls .....lb.	.24	.24½
Imp. powd. 224 lb bbls...lb.	.24½	.25
Creosote, USP, 42 lb cbys....lb.	.45	.47
Carbonate, 150 lb.....lb.	*1.50*	*1.60*
Cresol, USP, 400 lb drums...lb.	...	.20
500 lb drums.....lb.	.14	.17
***DIGITALIN** Pure, 1 oz vial..oz*	*15.00*	*15.50*
Dover's Powder, USP, 5 lb tin .....lb.	2.75	2.80
Duboisine Sulfate, 1 oz vl....oz.	*35.00*	*40.00*
Emetine Alk, 15 gr vial.....oz.	...	.85
Hydrochloride, USP, 1 oz vl .....oz.	25.00	26.00
15 grain vials.....oz.	2.50	2.70
Epsom Salts, USP, 200 lb bbls .....100 lb.	2.25	2.50
Imp. 100 lb bbls.....100 lb.	*2.30*	*2.35*
Ergotin Bonjean, 1 lb jars...lb.	18.50	19.00
Eserine Alk, 1 oz vials.....oz	...	50.00
Salicylate, 1 oz vials.....oz.	...	40.00
Sulfate, USP, VIII 1 oz vials .....oz.	...	40.00
***ETHER,** USP, 55 lb drums..lb.*	...	.12
Anaesthesia, 55 lb drums...lb.	.21	.23
Nitrous, 1 lb bot.....lb.	...	.80
Ethyl Chloride, 200 lb bot...lb.	*.22*	*.24*
Ethyl Iodide, 5 lb bot.....lb.	...	6.25
Formaldehyde, USP, 100 lb cbys Ic-l wks.....lb.	.07	.07½
Gall Extract.....lb.	.20	.21
GLANDULAR SUBSTANCES Duodenal Substance, 1 lb lots	...	5.50
Liver Substance (Hepatic) 1 lb lots.....	...	4.50
Orchic Substance (Testicular)	...	4.75
Ovarian Substance, whole, 1 lb lots.....	...	26.00
Ovarian Residue, 1 lb lots....	...	20.00
Pituitary Substance, whole 1 lb lots.....	...	40.00
Pituitary Substance, Anterior Lobe, 1 lb lots.....	...	27.00
Thyroid, U. S. P., 1 lb lots....	...	4.75
Oxgall Powder, 1 lb lots.....	...	1.35
GLYCERIN, CP, 550 lb drums .....lb.	...	.12
Gold Chloride, bottles.....oz.	12.00	12.50
Guaiacol, liq. USP. 100 lb cbys.....lb	1.65	1.75
Crystals.....lb	2.25	2.50
Benzoate, 1 lb bottles.....lb.	...	13.00
Carbonate, 5 lb boxes.....lb.	1.70	2.50
Halazone, 5 lb bot.....lb.	2.75	3.25
Hexamethylenetetramine, USP, 100 lb dr.....lb.	.46	.47
Homatropine Hydrobrom USP. .....oz.	...	14.50
5 oz and 1 oz vials.....oz.	...	13.50
Hydrastine Alk, USP, 1 oz vial .....oz.	20.50	21.00
Hydrochlide, USP, 1 oz vials .....oz.	20.50	21.00
Sulfate, 1 oz vial.....oz.		
Hydrastinine Hydrochloride, USP, 15 gr vials.....oz.	22.50	23.00
Hydrogen Peroxide, USP, soln 375 lb bbls.....lb.	...	40.00
Hyoscine Hydrobrom, USP, 1 oz vials.....oz.	.03½	.04½
5 oz, 1 oz vials.....oz.	13.07	13.57
Hyoscyamine Alk, crystals, 1 oz vials.....oz.	...	25.07
Amorphous, 1 oz vial...oz.	...	75.07
Hydrobromide, USP, 1 oz vial .....oz.	...	25.00
Sulfate, 1 oz vial.....oz.	...	25.07

Chemicals

Hypoquinone, 100 lb kegs...lb.	...	1.10
ICHTHYOL, tins.....lb.	4.00	4.25
Iodide Arsenous, 5 lb bot...lb.	...	5.20
Arsenous-Mercuric soln, 5 lb bot.....ql	...	.26
Iodine, crude, 200 lb kegs...lb.	4.35	4.35
Resublimed, 10 lb tars....lb.	4.65	4.70
Tincture demis.....gal.	...	4.85
Iodoform, powd 10 lb bot...lb.	...	6.50
Iron & Ammonium Citrate, USP, 50 lb cans.....lb.	.65	.66
Chloride, USP, lump 400 lb bbls.....lb.	.06	.08
Citrate, USP, VIII 25 lb can .....lb.	.94	1.01
Hypophosphite, 5 lb cans..lb.	1.55	1.65
Iodide, 1 lb bottles.....lb.	...	4.28
Phosphate, USP, 50 lb cans .....lb.	...	.69
& Potas Oxalate, 250 lb bbl .....lb.	...	.45
Pyrophosphate, USP, 50 lb .....lb.	.74	.80
& Sod Oxalate, 24 lb box...lb.	...	.30
Sulfate, USP, crys bbls....lb.	.04	.04½
Ferrous dried bbls.....lb.	...	.08
Valerate, tins.....lb.	2.75	3.00
Jalap Resin, USP lumps, 5 lb tins.....lb.	...	4.00
Powdered, tins.....lb.	...	4.65
Lead Acetate, USP, 100 lb kegs .....lb.	.16½	.19½
Iodide, USP, VIII 5 lb bot..lb.	3.20	3.40
Lecithin, 5 oz jars.....oz.	1.00	1.30
Licorice Ext Mass, cases....lb.	.19	.20
Compound powder, bbls...lb.	.11	.13
LITHIUM CARBONATE, 250 lb bbls.....lb.	1.35	1.45
Citrate, USP, 100 lb kegs..lb.	...	1.70
Iodide, 5 lb bottles.....lb.	...	5.65
Lobeline Sulfate, ¼ oz vial...oz.	...	8.75
Magnesium Carbonate, USP, 100 lb bbls.....lb.	.08	.09
English, oz blocks.....oz.	.16	.18
Glycerophosphate, 5 lb tins .....lb	3.20	3.25
Hypophosphite, 5 lb cans..lb.	1.15	1.20
Salicylate, 100 lb kegs.....lb	...	1.10
Stearate, bbls.....lb.	.23	.25
Manganese Glycerophosphate, 5 lb tins.....lb.	2.90	3.00
Hypophosphite, USP, VIII 5 lb cans.....lb.	1.35	1.40
Iodide, 1 lb bottles.....lb.	6.40	6.65
MENTHOL, USP, 60 lb cases .....lb.	3.40	3.55
Synthetic, cases.....lb.	3.00	3.10
Mercury Metal, 75 lb flasks...fl.	99.00	100.00
Bichloride, crys 25 lb box..lb.	...	1.51
Gran powd, 100 lb kegs..lb.	...	1.35
Bisulfate, 25 lb boxes.....lb.	...	1.48
Blue Mass, 25 lb boxes....lb.	...	.95
Powd, 25 lb boxes.....lb.	...	.96
Blue Ointment, USP, 50%, 25 lb cans.....lb.	...	1.19
Mild 30%, 25 lb cans....lb.	...	.86
33 1/3% mercury.....lb.	...	.94
Calomel, 50 lb boxes.....lb.	...	1.82
English.....lb.	2.75	2.80
Iodide, green, 25 lb jars....lb.	...	4.80
Red, USP, 25 lb jars...lb.	...	4.89
Yellow, USP, VIII, 25 lb jars.....lb.	4.80	4.80
Red precip, USP, 25 lb boxes .....lb.	...	2.06
Powd., USP, 25 lb boxes.lb.	2.17	2.17
White precip, USP, 25 lb boxes.....lb.	...	2.00
Powd., USP, 25 lb boxes.lb.	...	2.01
Salicylate, 25 lb bot.....lb.	...	2.32
With chalk, USP, 25 lb boxes .....lb.	...	.93
Methanol, Pure 1c-1 drs...gal	...	.44
Methyl Salicylate, USP, 50 lb cans.....lb.	.40	.42
Methylene Blue, USP, med 5 lb cans.....lb	2.00	2.05
Milk powd, 150 lb bbls.....lb.	.09	.12
MORPHINE Alk, 5 oz tin...oz.	10.90	10.95
Acetate, 5 oz tins.....oz.	8.75	8.80
Hydrobromide, 5 oz tins, 10 oz lots.....oz.	8.75	8.80
Hydrochloride, 5 oz tins, 10 oz lots.....oz.	8.75	8.80
Ethyl Hydrochloride, 5 oz tins 10 oz lots.....oz.	...	10.85
Sulfate, 5 oz tins, 10 oz lots .....oz.	7.85	8.00
Naphthalene Flake, 175 lb bbls wks.....lb.	.04½	.05
Balls, 250 lb bbls wks.....lb.	.05½	.06
Oxgall, Purified, 5 lb bot...lb.	1.75	2.50
USP, 5 lb bot.....lb.	2.00	2.50
Oxyquinoline Sulfate, tins...lb.	8.50	9.25
Pancreatin, USP, 100 lb....lb.	...	1.90
Paraffin, refd, 200 lb cs slabs 118 -120 deg MP.....lb.	.08	.09
128-132 deg MP.....lb.	.07½	.07¾
Para-Aldehyde, USP, 100 gal drums.....lb.	.67	.77
Pepsin, USP, 100 lbs. 1:3000.lb.	...	2.25
100 lbs. 1:6000.....lb.	...	4.00
100 lbs. 1:10000.....lb.	...	6.50
Peptone, powd, 5 lb bot.....lb.	...	...
PHENOLPHTHALEIN, USP, 100 lb drums.....lb.	1.00	1.10
5 lb cans 100 lb lots..lb.	1.13	1.20
Pilocarpine Hydrochloride, USP, 1 oz vials 25 oz lots .....oz.	...	3.25
Nitrate, 25 oz lots.....oz.	...	3.25
Single ounce.....oz.	...	3.50
Alkaloid, 15 gr vials.....vl.	...	.75
Piperadine, 25 oz bottles....lb.	...	8.00
Popodhyllin 5 lb bottles.....lb.	4.35	4.50
Potassium Acetate, USP, 100 lb kegs.....lb.	.29	.30
Bicarb, USP, crys 320 lb bbls .....lb.	.09½	.10
Bromide, USP, crys 100 lb cs .....lb.	.34	.35
Citrate, USP, 50 lb bbl....lb.	.42½	.43
Guaiacol Sulfonate.....lb.	1.95	2.25
Potassium Hypophosphite, 10 lb. cans.....lb.	.75	.80
Iodide, USP, 100 lb cases..lb.	3.50	3.55
Lactophosphate, 4 oz bot..lb.	...	.90
Permangan, USP, crys, 100 lb drs wks.....lb.	.15	.15½
Phosphate dibasic pure, kegs .....lb.	...	.49
Salicylate, 25 lb cans.....lb.	...	1.18
Sulfate, USP, VIII, 100 lb kegs.....lb.	.13	.15
Sulfocyanide, CP 15 lb jars lb.	...	.50
Tartrate, CP, tins.....lb.	...	.65
Pyrogallol, USP, see Acid Pyrogallic.....	...	...
Quinidine Alk, 100 oz tins...oz.	.70	.75
Sulfate, 100 oz tins.....oz.	...	.50
QUININE SULFATE, USP, 100 oz tins.....oz.	...	.40
1 oz tins, 100 oz lots....oz.	...	.47
Dutch, 100 oz tins.....oz.	...	.40
Java, 100 oz. tins.....oz.	...	.40
Japanese 100 oz tins.....oz.	...	.40
Acetate.....oz.	...	.74
Arsenate.....oz.	...	.76
Benzoate.....oz.	...	.74
Bisulfate, USP.....oz.	...	.40
Resale.....oz.	...	.39
Citrate.....oz.	...	.51
Dicarbonate, 1 oz tins....oz.	...	2.56
Dihydrobromide.....oz.	...	.54
Dihydrochloride, USP....oz.	...	.54
Ethyl Carbonate, 16 oz tins .....oz.	...	.70
Ferrocyanide.....oz.	...	.74
Formate.....oz.	...	.73
Glycerophosphate.....oz.	...	.72
Hydrobromide, USP.....oz.	...	.50
Hydrochlorosulfate.....oz.	...	.50
Hydrochloride & Urea, USP .....oz.	...	.74
Hypophosphite.....oz.	...	.70
Lactate.....oz.	...	.66
Phenolsulfonate.....oz.	...	.78
Phosphate.....oz.	...	.62
Salicylate, USP.....oz.	...	.52
Tannate, USP.....oz.	...	.41
Tartrate.....oz.	...	.74
Valerate.....oz.	...	.78
& Urea Hydrochloride, USP .....oz.	...	.88
Rennet, N. F. 5 lb 1:25,000...lb.	2.95	3.50
Resorcinol, USP, 25 lb cans..lb.	1.57	1.65
Rochelle Salt, USP, 225 lb bbl .....lb.	.19	.19½
Imp. USP, 300 lb bbls.....lb	...	.23
Rock Sugar, 5 lb boxes.....lb.	...	.15
Saccharin, USP, 10 lb cans...lb.	1.70	1.80
USP, Soluble, 10 lb cans...lb.	1.75	1.85
Salicin, USP.....lb.	...	12.50
SALOL, USP, 100 lb drums..lb.	...	.90
Saltpetre, powd, bbls wks....lb.	.06½	.08½
Santonin, USP, bulk.....lb.	123.00	133.00
Saponin, refined.....lb.	1.30	1.50
Siedlitz Mixture, 250 lb bb..lb.	...	.17⅞
Silver Metal, American.....oz.	...	.42⅞
Iodide, 16 oz lots.....oz.	...	.69
Nitrate, 100 oz bottles....oz.	.21⅞	.23⅞
Nucleinate, bulk.....oz.	...	.37
Proteinate.....oz.	.39	.41
SODIUM BENZOATE, USP, 100 lb bbls.....lb.	.44	.48
Bromide, USP, 100 lb kegs.lb.	.34	.35
Cacodylate, USP, 25 lb bot .....lb.	4.75	5.90
Citrate, USP, X 50 lb kegs.lb.	.34½	.36
USP VIII, 50 lb kegs....lb.	.29½	.31
Glycerophosphate, USP, crys 25 lb cans.....lb.	1.40	1.55
Powder, 25 lb tins.....lb.	1.45	1.60
Soln, USP, 25 lb tins...lb.	1.05	.120
Hypophosphite, USP, 25 lb cans.....lb.	.60	.65
Iodide, USP, 25 lb jars...lb.	4.25	4.30
Phosphate (Mono-Sodium), 100 lb kegs.....lb.	.30	.31
Di-Sodium USP, granular, 275 lb bbls.....lb.	.07½	.08
Pyrophosphate, 100 lb kegs .....lb.	...	.29
Salicylate, 100 lb kegs....lb.	...	.47
Sulfocarbolate, USP, 100 lb kegs.....lb.	...	.25
Sulfocyanate, CP crys, jars included.....lb.	...	.60
Spartein Sulfate, USP, 25 oz bulk.....oz.	.65	.70
Single oz vial.....oz.	.77	.90
STRONTIUM BROMIDE USP, 50 lb kegs.....lb.	.46	.47
Carb, 100 lb kegs wks....lb.	...	.20
Iodide, USP, 25 lb jars...lb.	...	4.00
Lactate, kegs.....lb.	.90	1.10
Nitrate, 600 lb bbls NY...lb.	.08	.08½
Imp. bbls NY.....lb.	.08	.08½
Salicylate, USP, 100 lb keg lb.	...	1.10
Strophanthin, USP, 1 oz vial.oz.	19.00	19.00
Crystals.....lb.	75.00	75.00
Strychnine Alk, USP crys, 100 oz tins.....oz.	...	.61
Powdered.....oz.	...	.51
Acetate.....oz.	...	.65
Arsenate, 25 oz cans.....oz.	...	.65
Glycerophosphite, USP...oz.	...	.65
Hydrobromide.....oz.	...	.65
Hydrochloride.....oz.	...	.65
Hypophosphite.....oz.	...	.75
Nitrate, USP.....oz.	.55	.72
Phosphate.....oz.	...	.65
Sulfate, USP, powd.....oz.	...	.42
Sugar, refined, 275 lb bbl 100 lb	5.80	5.90
Milk, USP, 200 lb bbls...lb.	.18	.20
Sulfonethylmethane, USP, 10 lb boxes.....lb.	3.85	4.05
Sulonmethane, USP, 10 lb box .....lb.	2.65	3.85
Sulfur flwrs. washed, USP, 125 lb bbl.....lb.	...	.06
Iodide, USP, VIII, 5 lb bot lb.	...	4.55
TARTAR EMETIC, USP, 300 lb bbls.....lb.	.32½	.34½
Terebene, tins.....lb.	...	.85
Terpin Hydrate, USP, 100 lb kegs.....lb.	.35	.37
Theobromine Alk, 5 lb cans..lb.	1.90	2.25
Sod. Salicylate, 1 lb bot...lb.	...	2.10
Sod. Benzoate, 1 oz vials..oz.	...	1.00
Thymol, USP, 25 lb tins.....lb.	2.00	2.25
Iodide kegs.....lb.	6.00	7.00
Veratrine Alkaloid.....oz.	...	2.25
Sulfate, 1 oz vials.....oz.	...	2.25
Witch Hazel Ext., 50 gal bbl .....gal.	.60	.80
Zinc Carb, USP, 100 lb keg..lb.	.28	.31
Chloride, USP, 25 jars ex..lb.	.24	.29
Iodide, 5 lb bottles.....lb.	...	5.22
Oxide, USP, 100 lb bbls...lb.	.13	.14
Stearate, USP, 50 lb bbl..lb.	.18	.20
Sulfate, USP, 100 lb bbl..lb.	.08	.09
Sulfocarbolate, 100 lb kegs..lb.	.23	.26

Miscellaneous

Castor Oil, odorless, bbls.....lb.	...	.13½
Chalk drop, 175 lb. bbls.....lb.	...	.03¼
Precip. light, 250 lb. cask..lb.	...	.04½
Heavy 540 lb. casks.....lb.	...	.02½
Bulk.....ton	...	5.00
English light, bags.....lb.	...	.04¾
English light, casks.....lb.	.05¼	...
Cocoa Butter, 12 lb. box....lb.	.42	.45
Cod Liver Oil Nor. 30 gal. bbls	30.00	31.00
Newfoundland.....bbl.	...	31.00
Collodion U. S. P. 30 lb. dr...lb.	...	.23
Corn Syrup 42° 50 gal. bbl. .....100 lb.	3.91	4.16
Gelatin, USP, Silver 100 lb. cases.....lb.	.55	.60
Pure Food, 50 lb. bbl.....lb.	.53	.55
Glucose, (grape sugar) dry 70° bags c-l NY.....100 lb.	3.14	3.24
Haarlem Oil, bot 6 gross cases .....gross	...	3.75
Imported, 5 gr. cs.....gross	...	3.50
Kaolin, Bags.....lb.	.06	.08
Colloidal Grade 200 lb. tin lined wooden drums....lb.	.15	.29
Mineral Oil White, 50 gal. bbls. 80-85 vis.....gal.	.45	.50
85-90 vis.....gal.	.65	.70
125-130 vis.....gal.	.75	.85
290 vis.....gal.	.80	.90
Russian 110-115 vis.....gal.	.69	.79
145-155 vis.....gal.	.70	.75
320-330 vis.....gal.	.80	.90
Olive Oil, Edible bbls.....gal.	2.00	2.40
Paraffin Wax, fully refined, slabs 125 @ 127 A.M.P. bags lb	...	.03
130 @ 132 A.M.P. bags lb.	...	.04¼
135 @ 137 A.M.P bags lb.	...	.05
Petrolatum, Lily White, USP. 400 lb. bbl.....lb.	.08	.08½
Snow White USP, 400 lb. bbls.....lb.	.09	.11
Rice Starch, 140 lb bags...lb.	.09	.10
Soap Castile, bars 40 lb. Case .....Cs.	...	12.75
Powd. USP 250 lb. bbls...lb.	.26	.28
Green, USP, 450 lb. bbls...lb.	.07½	.07¾
Neutral, powd. bbls.....lb.	.17	.18
Talc, Italian, 220 lb bags...ton.	60.00	80.00
French, 220 lb bags.....ton.	40.00	45.00

Aromatics and Essential Oils

Acetophenene, CP, 1 lb bot	lb.	3.50	3.65
Aldehyde, C 8 (Otcyl) 1 lb bot	lb.	...	40.00
C 7, 1 lb bot	lb.	4.50	5.50
C 9 (Nonyl), 1 lb bot	lb.	...	120.00
C 10 (Decyl), 1 lb bot	lb.	.	38.00
C 14, 1 lb bot	lb.	.	22.00
C 16, 1 lb bot	lb.	...	20.00
AMYL ACETATE, pure, 25 lb cans	lb.	.43	.50
Butyrate, 1 lb bot	lb.	1.25	1.50
Butyrate, 5 lb bot	lb.	...	1.00
Cinnamate, 5 lb bot	lb.	9.50	9.75
Formate, 1 lb bot	lb.	...	1.90
Formate, 5 lb bot	lb.	...	1 75
Phenyl Acetate, 1 lb bot	lb.	4.50	5.00
Salicylate, 100 lb cbys	lb.	1.25	1.30
Imported	lb.	2.25	2.50
Anethol, 2 lb bot	lb.	1.50	1.75
Anisic Aldehyde, 1 lb bot	lb.	3.20	3.70
Benzaldehyde, USP, 40 lb cbys	lb.	...	...
50 lb cbys	lb.	1.35	1.45
FFC, 40 lb cbys	lb.	1.25	1.35
Benzoic Ether, see Ethyl Benzoate			
Benzophenone, 1 lb bot	lb.	2.25	2.75
Benzyl Acetate, 100 lb cbys	lb.	.65	.85
Alcohol, 5 lb bot	lb.	.85	.95
BENZYL BENZOATE		1.10	1.15
Medicinal, FFC	lb.	...	1.40
Buytrate, CP, 1 lb bot	lb.	9.25	9.50
Benzyl Cinnamate, 1½ bot	lb.	7.00	7.25
Formate, 1 lb bot	lb.	3.25	3.35
Propionate, 1 lb bot	lb.	3.00	3.15
Succinate, 1 lb bot	lb.	5.25	5.50
Valerate, 5 lb bot	lb.	3.00	3.25
Borneol, 1 lb bot	lb.	1.50	2.00
Bornyl Acetate, 1 lb bot	lb.	1.70	2.80
Bromstyrol, 25 lb cases	lb.	3.75	3.85
Butyl Anthranilate dom, 1 lb bot	lb.		
Carvol, 5 lb bot	lb.	3.00	3.40
Cinnamic Acid, 5 lb cans	lb.	3.25	3.50
Alcohol liquid, 1 lb bot	lb.	2.50	2.60
Crystallizable	lb.	7.00	8.00
Aldehyde	lb.	2.25	2.50
Imported, 1 lb bot	lb.	7.75	9.00
Citral, 25 lb cans	lb.	2.25	3.60
Citronellal 1 lb bot	lb.	2.00	4.00
Citronelyl Acetate, 1 lb bot	lb.	4.25	4.50
Coumarin, 25 lb cans	lb.	3.50	4.00
DECYL ALCOHOL	lb.	25.00	28.00
Diphenyloxide, 25 lb tins	lb.	1.00	1.15
Diphenyl Methane	lb.	1.75	2.00
Duodecyl Alcohol	lb.	20.00	22.00
Ethyl Acetate, pure, 5 lb bot	lb.	.06	.07
Benzoate, 5 lb bot	lb.	1.50	1.75
Ethyl Butyrate, 5 lb bot	lb.	1.80	2.00
Caproate, 1 lb bot	lb.	3.25	3.50
Cinnamate, 1 lb bot	lb.	4.00	4.50
Formate, 5 lb bot	lb.	1.00	1.25
Methyl Paracresol, 1 lb bot	lb.	3.25	3.50
Phenyl Acetate, 5 lb bot	lb.	3.75	4.00
Valerate, 5 lb bot	lb.	...	3.75
Salicylate, 5 lb bot	lb.	1.95	2.00
Eucalyptol, USP, 50 lb cans	lb.	.80	.85
Eugenol, USP, 25 lb cans	lb.	3.00	3.50
Geraniol, 50 lb cases	lb.	2.00	2.60
Geranyl Acetate, 1 lb bot	lb.	2.75	2.80
Butyrate, 1 lb bot	lb.	13.00	13.50
Formate, 1 lb bot	lb.	12.00	12.50
Heliotropin, 100-10 lbs	lb.	1.65	1.75
Imported	lb.	1.95	2.05
Hydroxycitronellal, 1 lb	lb.	5.00	7.00
Indol, CP, 1 oz bot	oz.	2.90	3.00
IONONE, 1 lb bot 100%	lb.	5.00	6.00
Alpha	lb.	4.50	4.70
Beta	lb.	5.70	5 75
Methyl	lb.	5.00	5.25
Iso Borneol	lb.	2.25	2.35
Iso Bornyl Acetate	lb.	3.00	3.20
Iso-Butyl Benzoate, 5 lb bot	lb.	2.75	3.00
Iso-Eugenol, 1 lb bot	lb.	3.75	3.80
Iso-Safrol, 1 lb bot imp	lb.	1.75	1.85
Domestic, 5 lb bot	lb.	3.50	3.75
Linaloi from Bois de Rose, 5 lb bot	lb.	1.90	3.90
Linalyl Acetate, 1 lb bot	lb.	2.00	3.00
Benzoate, 1 lb bot	lb.	13.00	14.00
Formate, 5 lb bot	lb.	10.50	12.00
METHYL ACETOPHENONE	lb.	2.70	2.85
Anthranilate, 1 lb bot	lb.	2.25	2.30
Imported	lb.	2.70	2.75
Anthranilic Acid	lb.	11.75	12.00
Benzoate, 5 lb bot imp	lb.	1.75	1.85
Domestic, 5 lb bot	lb.	1.75	2.00
Cinnamate, 1 lb bot	lb.	3.75	4.25
Heptenone, 1 lb bot	lb	3.50	4.00
Paracresol, 1 lb bot	lb	4.50	8.00
Phenylacetate, 5 lb bot	lb	3.75	4.00
Salicylate, USP, 500 lb dr	lb.	...	.40
50 lb cases	lb.	...	.42
Mirbane rect, 1,000 lb drs	lb.	.12	.13
Musk Ambrette 1 lb cans	lb	7.25	7.50
Ketone 1 lb cans	lb	7.75	7.90
Xylene 5 lb cans	lb.	2.25	2.85
Nerolin 1 lb cans	lb.	1.35	1.40
Octyl Alcohol 1 lb bot	lb.	30.00	32.00
Oenanthic Ether lb bot	lb.	1.90	2.00
Oleoresin Aspidum, USP, bot and tins	lb.	...	1.25
Capsicum, USP, bot and tins	lb.	3.50	4.25
Cubeb, USP, bot and tins	lb.	3.00	3.25
Ginger bot and tins	lb.	2.85	3.35
Malefern see Aspidum			
Orris, bot & tins	lb.	15.00	18.00
Pepper, black, USP, bot & tin	lb.	...	9.50
Vanilla, bot & tins	lb.	8.00	8.75
Paracresol Methyl Ether	lb.	6.50	6.75
Paracresyl Acetate	lb.	5.50	5.75
Para Cymene Refd 110 gal dr	gal.	2.25	2.50
PHENYLACETALDEHYDE 50% 1 lb bot	lb.	4.75	5.00
Imported 50%	lb.	4.75	5.00
100%	lb.	8.00	8.25
Phenylacetic Acid 1 lb bot	lb.	2.65	2.90
Phenyl Diacetate 1 oz bot	oz.	3.00	3.25
1 lb bot	lb.	8.00	10.00
Imported	lb.	7.00	7.75
Phenylethyl Alcohol 1 lb bot	lb.	4.40	4.65
Phenyl Ethyl Acetate	lb.	8.25	8.75
Butyrate 1 lb bot	lb.	15.00	16.00
Formate, 1 lb bot	lb.	19.00	21.00
Propionate, 1 lb bot	lb.	16.00	18.00
Valerate, 1 lb bot	lb.	19.00	20.00
Phenylpropylalcohol, 1 lb bot	lb.	8.50	9.00
Rhodinol, 1 lb bot	lb.	6.25	20.00
Saffrol, drums	lb.	.30	.32
60 lb cans	lb.	.32	.34
Skatol, 1 oz bot	lb.	4.50	7.00
Terpinyl Acetate, 25 lb cans	lb.	.85	.90
Imported, 25 lb cans		.85	.90
TERPINEOL, CP, 1000 lb drs	lb.	.27	.29
50 lb cans	lb.	.31	.33
Absolute, 25 lb cans	lb.	.48	.50
Imported, 25 lb cans	lb.	.58	.60
Valerianic Ether see Ethyl Valerate			
Vanillin (Clove Oil), USP (Guaiacol) USP	lb.	5.50	5.75
	lb.	5.00	5.25

Essential Oils

Almond Bitter, USP, 5 lb bot	lb.	2.25	2.35
Bitter, ffPA, 5 lb bot	lb.	2.35	2.50
Sweet, 56 lb cans	lb.	.45	.48
Almond Meal, 25 lb cans	lb.	.20	.21
Amber crude, 25 lb tins	lb.	.15	.17
Rectified, 25 lb tins	lb.	.50	.53
Amber liquid, 400 lb drs	lb.	2.20	2.30
Ambergris, Black, boxes	oz.	14.00	15.00
Gray boxes	oz.	32.00	36.00
Angelica Root, 1 lb bot	lb.	25.00	35.00
Anise Tech, 400 lb drums	lb.	.44	.46
USP, 60 lb cans	lb.	.46	.48
Apricot Kernel, 50 lb cans	lb.	.26	.27
Bay, 25 lb tins N. F. V., 50.55% Phenol	lb.	2.00	2.20
Terpeneless	lb.	4.25	4.45
BERGAMOT, 25 lb coppers	lb.	1.60	2.15
Terpeneless	lb.	6.25	9.25
Artificial, 25 lb cans	lb.	1.25	1.50
Birch, Sweet, Northern, 25 lb tins	lb.	3.00	3.10
Southern, 25 lb tins	lb.	...	1.85
Birch Tar, rect., 5 lb bot	lb.	.50	.55
Crude, 50 lb tins	lb.	.13	.14
Bois de Rose, tins Brazillian	lb.	.70	.75
Cayenne, tins	lb.	1.40	1.60
Cade, 25 lb cans	lb.	.25	.26
Cajuput, native, 50 lb tins	lb.	.57	.62
Calamus, 5 lb bot	lb.	2.75	3.00
Camphor Sassa, 1000 lb drs	lb.	.21	.22
White, 400 lb drs	lb.	.17	.18
Cans, 50 lbs	lb.	.19	.20
CANANGA, Native 25 lb tins	lb.	1.75	1.90
Rectified, 25 lb tins	lb.	2.10	2.20
Caraway, USP	lb.	1.50	1.65
Cardamon, NF, 1 lb bot	lb.	20.00	25.00
Cascarilla, USP, 1 lb bot	lb.	65.00	80.00
Cassia, Redist, USP, 50 lb cans	lb.	.95	1.00
Cedar Leaf, 50 lb tins	lb.	.85	1.00
Cedar Wood, light, 1000 lb drs	lb.	.35	.37
Celery, 1 lb bot	lb.	...	7.50
Chaulmoogra, USP 80 lb cases	lb.	...	1.50
Cinnamon Ceylon, 1 lb bot	lb.	9.00	10.00
Leaf, 5 lb bot	lb.	1.85	1.95
CITRONELLA Ceylon, 1000 lb drs	lb.	.38	.40
50 lb tins	lb.	.40	.42
Java, 400 lb drs	lb.	.51	.53
50 lb tins	lb.	.54	.56
Civet, Abyssin, horns	oz.	2.10	3.00
Cloves, USP, 50 lb cans	lb.	1.35	1.40
6 lb bot	lb.	1.95	2.00
Copaiba	lb.	.45	.50
Coriander, USP, 10 lb bots	lb.	4.75	5.25
Croton USP, 25 lb tins	lb.	4.25	5.00
Cubebs, USP, 5 lb bot	lb.	2.70	2.80
Cumin, 1 lb bot	lb.	7.00	7.50
Dill, 25 lb cans	lb.	3.75	5.25
Erigeron, 20 lb tins	lb.	1.25	1.35
EUCALYPTUS Austl, USP, 56 lb cans, cases	lb.	.39	.40
500 lb drs	lb.	.36	.37
Fennel, USP, 25 lb tins	lb.	.95	1.10
Geranium African, 25 lb tins	lb.	4.15	5.15
Bourbon, 28 lb tins	lb.	3.95	4.95
Turkish, 28 lb tins	lb.	2.25	2.50
Ginger, 1 lb bot	lb.	4.35	4.50
Gingergrass, 28 lb tins	lb.	2.50	2.70
Grape Fruit	lb.	2.90	3.00
Hemlock, 25 lb tins	lb.	1.00	1.05
Juniper Berries, USP, 25 lb tins	lb.	1.50	1.55
Wood, 50 lb tins	lb.	.50	.60
Labdanum, 5 lb bot	lb.	5.50	6.00
LAVENDER, USP, 28 lb tins	lb	1.90	2.10
Spike Spanish, 50 lb cans	lb.	.50	.60
Lemon Ital, 25 lb cans	lb.	.80	1.05
California 35 lb cbys	lb.	.65	.90
Lemongrass, native, 50 lb cans	lb.	.65	.67
Limes, expressed, 25 lb tins	lb.	13.25	15.00
Distilled, 25 lb tins	lb.	11.00	11.25
Linaloe Mex., 70 lb cases	lb.	...	1.75
Mace, distilled, 50 lb tins	lb	1.20	1.25
Mandarin, 25 lb cases	lb.	4.35	4.85
Musk Pods Cabardine, tins	lb.	...	...
Musk Tonquin, tins, Pods	oz.	24.00	26.00
Grains Cabardine, tins	oz.	...	...
Tonquin, tins, Grained	oz.	28.00	34.00
MUSTARD, USP, 1 lb bots	lb.	9.50	10.00
Artif, USP, 5 lb bot	lb.	1.60	1.70
Neroli Bigarade, ¼ & ½ & 1 lb bot	lb.	125.00	250.00
Petale, 1 lb bot	lb.	160.00	170.00
Artificial, 1 lb bot	lb.	5.00	15.00
Nutmeg, USP, 50 lb tins	lb.	1.05	1.10
ORANGE BITTER, 25 lb tins	lb	2.35	2.60
Sweet W Ind, 25 lb tins	lb	1.85	2.00
Italian, 25 lb cop	lb	1.85	2.25
Orange American, Cold pressed 25 lb tins	lb.	1.85	1.90
Distilled, 25 lb tins	lb.	1.00	1.05
Spanish, 25 lb tins	lb.	...	2.25
Oil Orris, concrete	oz.	5.75	6.00
Origanum, 50 lb cans tech	lb.	.25	.27
Parsley, 1 lb bot	lb.	7.50	7.75
Patchouli, 5 lb bot	lb.	4.50	4.85
Pennyroyal, dom, 25 lb tins	lb.	1.90	2.10
Imported, 25 lb tins	lb.	...	1.05
Pepper Black lb		...	8.00
Peppermint, nat. 60 lb cases	lb.	1.65	1.75
Redis, USP, 60 lb cs	lb.	1.80	1.95
Petit Grain S A., 25 lb tins	lb.	1.25	1.35
French, 1 lb bot	lb.	4.50	4.75
Italian, 25 lb tins	lb.	2.20	2.30
Pimento, 25 lb tins	lb.	1.60	1.75
Pineedle Siberian, cans	lb.	.60	.65
Pinus, Sylvestris, 25 lb tins	lb.	1.30	2.00
Pumilio, USP, 25 lb tins	lb.	1.90	1.95
Rose Fr, 8, 16, & 32 oz pkgs	lb.	14.00	17.00
Bulg, 8, 10 & 32 oz pkgs	oz.	12.50	13.50
Rosemary, USP, 27½ lb tins	lb.	...	.49
1000 lb drums	lb.	...	.48
Tech, 25½ lb tins	lb.	...	.38
Rue, 1 lb bot	lb.	3.00	3.10
SANDALWOOD, E Ind, USP, 100 lb case	lb.	8.00	8.25
W Indian (Amayris), 25 lb tins	lb.	2.85	2.95
Australian, Tins		5.65	5.65
Sassafras, USP, 50 lb cans	lb.	1.30	1.32
Artificial, 1000 lb drs, 60 lb cans	lb.	.27	.29
Safrol, cans	lb.	.36	.38
Savin, 50 lb tins	lb.	2.10	2.35
Snakeroot, Canada	lb.	8.50	8.75
SPEARMINT, USP, 50 lb tins	lb	1.90	2.15
Spruce, 50 lb tins	lb.	.95	1.00
Tansy, American, 25 lb tins	lb.	2.60	2.75
Tar, 50 gal bbls	lb.	.25	.30
USP, 50 gal bbls	lb.	.75	1.50
Thyme, red, NF, 25 lb tins	lb.	.65	.68
White, NF, 25 lb tins	lb.	.83	.85
Tech, 110 lb drums	lb.	.60	.70
Turpentine, USP, rect cbys	lb.	.27	.30
Vetivert Bourbon, 10 bot	lb.	4.75	5.00
Indian, 1 lb bot	lb.	25.00	38.00
Java, 1 lb bot	lb.	13.50	14.50
Wine, heavy, 1 lb bot	lb.	1.50	1.60
WINTERGREEN Gaultheria, true, 25 lb tin	lb.	8.00	10.00
Southern, 25 lb tins	lb.	3.75	4.00
Synthetic see Methyl salicylate			
Wormseed, Balt, 25 lb tins	lb.	2.75	3.00
Wormwood, dom, 25 lb tins	lb.	6.75	7.00
Ylang Ylang Bourbon, 10 lb tins No. 1	lb.	5.25	5.50
10 lb tins No. 2	lb.	5.20	5.25
Manila, 1 lb bot	lb.	30.00	36.00

Drugs and Spices

Aconite Root, USP, bags....lb.	.13	.14
Agar Agar, No. 1, bales....lb.	1.15	1.20
Agar Agar No. 2, bales.....lb.	1.05	1.10
Almonds Meal.....lb.	.40	.41
Aletris Root, bags.....lb.	.22	.23
Alkanet Root, bags.....lb	.09	.10
ALOES, Cape, 400 lb cases. lb.	.11	.12
Curacao, 100 lb cases.....lb.	.25	.27
Socotrine, Whole, 300 lb cs lb.	.32	.37
Althea Root, bags.....lb.	.20	.22
Cut cases.....lb.	.20	.27
Angelica Root, bags.....lb.	.14	.15
Angostura Bark, bags.....lb	.18	.19
Anise Star case.....lb	.10	.10½
Spanish, bags.....lb	.08	.08½
ARABIC GUM, White, No. 1, 220 lb bags.....lb.	.30	.31
Seconds, 220 lb bags.....lb.	.27	.28
Sorts, Amber, 220 lb bags..lb.	.09	.09½
Powd, USP, 300 lb bbls....lb.	.14	.17
Areca Nuts, 100 lb bbls.....lb.	.06	.08
Powd, 100 lb bbls.....lb.	.11	.12
Arnica Flowers, bales.....lb.	.11½	.13½
Root, bags.....lb.	.42	.43
Arrowroot, St. Vincent, powd bbls.....lb.	.08	.09
Asafoetida, 250 lb cases.....lb.	.20	.21
Powd, 50 lb boxes.....lb.	.35	.36
Balm Gilead Buds, bags....lb.	.30	.35
Balmony Herbs, bales.....lb.	.22	.24
BALSAM COPAIBA Para, 80 lb cases.....lb.	...	.23
South American, USP, 80 lb cases.....lb.	...	.24
Peru, 120 lb cases.....lb.	1.50	1.85
Tolu, 90 lb cases.....lb.	.95	1.00
Barberry Bark, of root, bags lb.	.18	.20
Bayberry Bark, bales.....lb.	.08	.09
Wax bbls.....lb.	.29	.32
BELLADONNA LEAVES, bale .....lb.	.14	.16
Root, bags.....lb.	.11	.12
Bees Wax, White, cases.....lb.	.48	.52
Yellow refined cases.....lb.	.34	.40
Benzoin Gum, Siam, boxes...lb.	1.20	1.30
Sumatra, cases.....lb.	.31	.32
Berberis Aquafolium Root, bags .....lb.	.09	.10
Beth Root, bags.....lb.	.10	.11
Black Indian Hemp Root, 100 lb bags.....lb.	.12	.13
Blood Root, bags.....lb.	.12	.12½
Blueflag Root, bags.....lb.	.14	.15
Boldo Leaves, bales.....lb.	.15	.17
Boneset Herb, bales.....lb.	.10	.11
Borage Flowers, bales.....lb.	.15	.16
Broomtop Herb Cut, bales..lb.	.08	.09
Bryonia Root, bags.....lb.	.10	.11
BUCHU LEAVES Short, 250 lb. bales.....lb.	.20	.21
Long bales.....lb.	.75	.80
Buckbean Leaves, bales.....lb.	.08	.09
Buckthorn Bark, bags.....lb.	.04½	.05
Berries, bags.....lb.	.30	.35
Burdock Root, bags.....lb.	.09	.10
Seed bags.....lb.	.35	...
Burgundy Pitch, 110 stand gross for net.....lb.	.08	.09
Imported.....lb.	.10	.11
Calabar Beans, bags.....lb.	.20	.21
Calamus Root, blchd cases..lb.	.37	.38
Unbleached, bags.....lb.	.07	.08½
Calendula Petals, imp bales..lb.	.33	.38
Calisaya Bark, bales.....lb.	.19	.20
Powdered, bbls.....lb.	.25	.26
Canary Seed, South America, bags.....lb.	.05	.05½
Dutch, bags.....lb.	.05	.06
Candelilla Wax, bags.....lb.	.27	.28
Cannella Alba Bark, bales...lb.	.26	.27
Cannabis, U.S.P.....lb	.19	.26
Cantharides, Chinese, cases..lb.	.35	.40
Powdered, boxes.....lb.	.60	.63
Russian, cases.....lb.	.70	.75
Powdered, boxes.....lb.	.75	.77
Caraway Seed, African, bags .....lb.	.05	.06
Dutch, 11 lb bags.....lb.	.09	.09½
Cardamon bleached, cases...lb.	1.25	1.33
Decorticated, cases.....lb.	.56	.57
Cascara Amarga, 150 lb bbls.lb.	Nom	...
So called bales.....lb.	.50	.75
CASCARA SAGRADA, 1928 bark.....lb.	.17	.18
1929 bark.....lb.	.16½	.18
1930 bark.....lb.	.12	.13
Cascarilla Bark, quills, bales.lb.	.90	1.00
Siftings, bbls.....lb.	.65	...
Cassia Batavia No. 1 bbls....lb.	.07½	.07½
Shortstick, bales.....lb.	.06½	.07
Batavia No. 3, bales.....lb.	.06½	.06½
China Select Rolls, cases..lb.	.03½	.04
Broken, bales.....lb.	.05½	.05½
Saigon, thin.....lb.	.22	.23
Buds, cases.....lb.	.17	.18
Fistula, baskets.....lb.	.08	.09
Catnip, Herb, bales.....lb.	.20	.21
Celery Seed, bales.....lb.	.17	.17½
Ceresin Wax, White, bags...lb.	.15	.20
Yellow 200 lb. bags.....lb.	.11	.14
Imp. 100 lb. bags.....lb.	.25	.38
CHAMOMILE FLOWERS Roman, bales.....lb.	.42	.47
Hungarian, cases.....lb.	.20	.22
Charcoal Willow, powd, bbls.lb.	.06	.06½
Wood, powd, bbls.....lb.	.04	.05
Chestnut Bark.....lb.	.07	.08
Leaves bales.....lb.	.05	.05½
Chicle Gum, lb bbls.....lb.	.58	.75
Chiretta, bales.....lb.	.16	.19
Cinnamon, Ceylon, No. 1, bales .....lb.	.15	.16
No. 2 bales.....lb.	.12½	.13
No. 3 bales.....lb.	.11½	.12
Clover Tops, Red, bags ....lb.	.08	.09
Cloves Zanzibar, 135 lb bbl...lb.	.22	.22½
Cochineal, Black.....lb.	.69	...
Silver.....lb.	.85	...
Cohosh Root, Black, bags....lb.	.06	.07
Blue, bags.....lb.	.06½	.07½
Colchicum Root, bags.....lb.	.07	.08
Seed, bags.....lb.	.65	.70
COLOMBO ROOT, bags...lb.	.07	.08
Colocynth Pulp, bales.....lb.	.19	.20
Coltsfoot Leaves, bags.....lb.	.07	.08
Comfrey Root, bags.....lb.	.11	.12
Condurango Bark, bags.....lb.	.10	.11
Coriander Seed, Morocco, bags .....lb.	.02½	.03
Bleached, bags.....lb.	.05½	.06
Corn Silk, bales.....lb.	.06	.07
Cotton Root Bark, bales....lb.	.08	.09
Cowhage, 1 oz tins.....lb.	1.00	...
Cramp Bark so called bales..lb.	.05½	.06
True, bags.....lb.	.31	.36
Cranesbill Root, bags.....lb.	.10	...
CUBEB BERRIES, XX bags .....lb.	.32	.33
Powdered, boxes.....lb	.34	.35
Culvers Root, bags.....lb.	.15	.16
Cumin Seed, Malta, bags....lb.	.12½	.12½
Morocco, bags.....lb.	.10½	.11
Cuttlefish, Bone Trieste, Straps .....lb.	.22	.24
French, boxes.....lb.	.22	.23
Powdered, bbls.....lb.	.09	.10
Broken, bales.....lb.	.07	...
Damiana Leaves, bales.....lb.	.15	.16
Dandelion Root, Imp. bags..lb.	.13	.15
Deer Tongue Leaves, bales...lb.	.11	.13
Digitalis Leaves, bales.....lb.	.12	.13
Dogwood Bark, Jamaica bags .....lb.	.08	.09
American bales.....lb.	.06½	...
Doggrass Root, USP, cut bags .....lb.	.19	.20
Dragons Blood Mass, cases..lb.	.65	.70
Reeds, boxes.....lb.	...	1.15
Echinacea Root, bags.....lb.	.17	.18
Elcampane Root, bags.....lb.	.07	.08
Elder Flowers, bags.....lb.	.26	.30
Elemi Gum, 85 lb cases.....lb.	.26	.28
Elm Bark, bundles.....lb.	.20	.21
Grinding bags.....lb.	.13½	.14
Powdered, bbls.....lb.	.17	.18
Ephedra Vulgaris, bales.....lb.	.07	.08
ERGOT, 150-200 lb bags....lb.	.47	.65
Eucalyptus Leaves, bales....lb.	.05½	.06½
Euphorbia Pilulifera, Herb, bags.....lb	.05½	.08½
Euphorbium Gum, cases....lb.	.14	.20
Fennel Seed, French, bags...lb.	.08	.08½
German bags.....lb.	.08	.10
Foenugreek Seed, 200 lb bags .....lb.	.04½	.04¾
Fish Berries, 100-125 lb bag..lb.	.06	.07½
Flax Seed, Whole ..182 lb bbls..	14.50	15.25
Ground, 180 lb bbls.....lb.	.06	.06¼
Fringe Tree Bark or Root bags .....lb.	.14	.16
Fumigating Pastiles, boxes..lb.	.30	.35
Galangal Root, bags.....lb.	.08	.09
Galbanum Gum, cans.....lb.	.90	1.00
Gamboge Gum, 100 lb cases..lb.	.80	.85
Powdered, cases.....lb.	...	1.00
Gelsemium Root, bags.....lb.	.06¼	.07½
GENTIAN ROOT, bags....lb.	.07½	.08½
Ground bbls, boxes.....lb.	.10	.11
Powdered, bbls, boxes....lb.	.10	.11
Ginger, African, bags.....lb.	.05½	.06
Jamaica Grinding bags....lb.	.08½	.08¾
Cochin ABC & Lemon, bags .....lb.	.12	.12½
Ginseng Root, cultivated cs..lb.	8.00	10.00
Wild Southern, cases.....lb.	...	16.00
Golden Seal Root, bags.....lb.	1.10	1.15
Powdered, boxes.....lb.	1.50	1.55
Herb, barrels.....lb.	1.25	1.30
Grains of Paradise, bags....lb.	.12	.17
Grindelia Robusta, Herb, bale .....lb.	.07	.08
Guaiac Gum, 150 lb cases....lb.	.32	.33
Strained 75 lb cases...lb.	.70	.75
Guarana, tin cases.....lb.	1.00	1.25
Hellebore Root, Black, bbls. lb.	.05½	.06
White, 250 lb bbls.....lb.	.07½	.08½
Powdered.....lb.	.11	.12
Helonias Root, bags.....lb.	.42	.44
Hemp Seed, bags.....lb.	.03½	.03¾
Henbane Leaves, USP, bales.lb.	.10	.11
HENNA LEAVES, bales....lb.	.10	.11
Powdered.....lb.	.14	.15
Hops, bales.....lb.	...	.23
Horehound, Herb, bales.....lb.	.07	.08
Hydrangea Root, bales.....lb.	...	.07
IPECAC ROOT, Carteagna, bags.....lb.	1.35	1.40
Powdered, 220 lb bbls....lb.	1.60	1.65
Rio Whole, bags.....lb.	2.30	2.35
Powdered, 110 lb bbls....lb.	2.50	2.55
Isinglass, American, 130 lb cases .....lb.	.95	1.00
Russian (Beluga), boxes...lb.	4.50	...
Jaborandi Leaves, bales.....lb.	.09½	.10
Jalap Root, Whole, 150 lb bag.....lb.	.18	.20
USP, Powd, 250 lb bbls....lb.	.23	.26
Japan Wax 24 lb cases.....lb.	.18½	.19
JUNIPER BERRIES, 125 lb bags.....lb.	.05	.05½
Kamala, boxes.....lb.	.70	.75
Karaya Gum, Powdered, bbls .....lb.	.12	.20
Kava Kava Root, bags.....lb.	.13	.14
Kino Gum, Black, cases.....lb.	.50	.55
Kola Nuts, 150 lb bags.....lb.	.08	.09
Lady Slipper Root, bags....lb.	.50	.55
Larkspur Seed, bags.....lb.	.30	.35
Laurel Berries, bags.....lb.	.08	.09
Leaves, Greek, bags.....lb.	.05½	.06½
Italian, bales.....lb.	.08	.09
Lavender Flowers, Ordinary.lb.	.18	.20
Selected.....lb.	.32	.33
Lemon Peel, bags.....lb.	.09	.10
LICORICE ROOT, Whole bbls .....lb.	.12½	.18½
Spanish Natural bales....lb.	.05½	.07
Powdered, bbls.....lb.	.08	.10
Selected 2 & 5 lb bdls....lb.	.12	.15
Cutting, 125 lb bags....ln.	.06	.06½
Turkish, 150 lb bales.....lb.	.05	...
Linden Flowers with leaves, bales.....lb.	.15	.16
Without leaves, bales...lb.	.21	.22
Liverwort Leaves, bales.....lb.	.15	.16
Lobelia, Herb, bales.....lb.	.08½	.09½
Seed, bags.....lb.	.45	.50
Lovage Root, Imp., bags....lb.	.22	.24
Lupulin N. F., tins.....lb.	1.40	1.45
Lycopodium, 88 lb. cases....lb.	.37	.39
MACE SIAUW, No. 1, cases .....lb.	.39	.40
Banda No. 1, cases.....lb.	.47	.48
Batavia No. 2, cases.....lb.	.34	.35
Malva Flowers, Blue, bales..lb.	.37	.39
Black, bales.....lb.	.28	.43
Leaves, bales.....lb.	.13	.14
Manaca Root, bales.....lb.	.25	.26
Manna, Large Flake, cases...lb.	.65	.67
Small Flake, cakes.....lb.	.40	.48
Sorts, cases.....lb.	.45	.50
Mandrake Root, bags.....lb.	.10	.11
Marjoram, Herb .....lb.	.15½	.16
French, No. 1 bales.....lb.	.13	.14
German, bales.....lb.	.65	.70
Mastic Gum, 120 lb cans....lb.	.18	.21
Matico Leaves, bales.....lb.	.15	.16
Mezereon Bark, bags.....lb.	.02½	.03
Millet Seed, Yellow, bags...lb.	.06½	.07
Montan Wax, Crude, bags..lb.	.25	.28
Bleached, bags.....lb.	.10	.12
Moss, Iceland, bales.....lb.	.11½	.14½
Irish, Bleached, bales ....lb.	.80	.85
Mullein Flowers, tins.....lb.	.07½	.08
Leaves, bales.....lb.	.07½	.08½
Musk Root, Russian, bags...lb.	.18	.20
Myrrh Gum, 200 lb, cases...lb.	.22	...
Nutgalls, Chinese, bags.....lb.	...	Nom.
Aleppy, bags.....lb.	.23	...
Powdered, bags.....lb.	.14½	.15
Nutmegs, 110's cases.....lb.	.16½	.17
75's & 80's cases.....lb.	.18	.19
Grinding, bags.....lb		
NUX-VOMICA Buttons, bag .....lb.	.05	.06
Powdered, 200 lb bbls..lb.	.08	.09
Oak Bark, bags.....lb.	.06	.06½
Olibanum Gum, 280 lb cases Siftings.....lb.	.09	.10½
Tears, No. 1 Extra.....lb.	.24	.25
No. 2.....lb.	.16	.18
No. 3.....lb.	.13	.15
Opium Gum, USP, cases....lb.	12.00	13.00
Granular, cans.....lb.	13.00	14.00
Powdered, USP, cans.....lb.	13.00	14.00
Orange Flowers, cases.....lb.	.30	.35
Peel, Bitter, bags.....lb.	.07	.08
Sweet bags,.....lb.	.08	.09
ORRIS ROOT, Flor. bid. bags .....lb.	.16	.17
Powdered, 200 lb bbls..lb.	.18	.20
Verona, bags.....lb.	.10	.11
Powdered, 200 lb bbls..lb.	.17	.18
Fingers, boxes.....lb.	.95	1.00
Ozokerite Wax, Brown, Hard lb.	...	...
Bags.....lb.	.24	.25
Green, Hard, bags.....lb.	.30	.31
Yellow, Refined, bags.....lb.	.37	...
Papain, Crude, 150 lb cases..lb.	2.25	2.30
Pure, Powdered, 10 lb bot..lb.	2.45	2.50
Paprika, bags.....lb.	.20	.20½
Pareira Brava Root, bags....lb.	.13	.14
Passion Flower, bales.....lb.	.05	.06
Patchouli Leaves, bales.....lb.	.18	.19
Pennyroyal, Herb, 100 lb bags .....lb.	.07	...
Leaves, 100 lb bags.....lb.	.20	.21

Drugs and Spices

PEPPERMINT LEAVES, Imp bales	lb.	.50	.60
Domestic, bales	lb.	.28	.29
Pichi Leaves, bags	lb	.11	.12
Pimento Select, bags	lb.	.05½	.05½
Pink Root, True, bags	lb.	.40	.42
Pleurisy Root, bags	lb.	.16	.17
Poke Berries, bags	lb.	...	.18
Root, 200 lb bales	lb.	.06	.06½
Pomegrant Bark of Root, bags	lb.	.30	.35
Bark of Fruit, bags	lb.	.25	.30
Bark of Tree, bags	lb.	.18	.22
POPPY FLOWERS, Red, bags	lb.	.45	.50
Prickly Ash Bark	lb.	.14	.17
Southern bags	lb.	.11	.11½
Northern, bags	lb.	.15	.16
Berries, bags	lb.	.21	.22
Prince's Pine, bales	lb.	.18	.23
Psyllium Seed, Black, bags	lb.	.55	.65
Plantago Seed, Blonde, Bags	lb.	.10	.12
Pulsatilla, Herb, bags	lb.	.10	.11
Pumpkin Seed, bags	lb.	.12	.13
Pyrethrum Flowers	lb.	.15	.16
Pwd., pure, 200 lb.bbls.	lb.	.22	.23
Quassia Chips, bags	lb.	.06½	...
Quebracho, bulk, 125 lb. bbl.	lb.	.25	.26
Quince Seed, bags	lb.	1.50	1.60
Persian, bags	lb	1.85	1.90
Rape Seed, South American, bags	lb.	.05½	.06
Dutch, bags	lb.	.06	.06½
Raspberries, Dried, bbls.	lb.	.70	.75
Red Saunders, bags	lb.	.08	...
Rhatany Root, bags	lb.	.10	.11
Rhubarb Root, HD, cases	lb.	.15	.17
Powdered, bbls.	lb	.20	.22
Rosemary Leaves, bales	lb.	.05	.05½
Flowers, cases, bales	lb.	.25	.30
Rose Petals, pale	lb.	.20	.21½
Red	lb.	.50	.55
Rue, Herb, bales	lb.	.18	.20
Sabadilla Seed, bags	lb.	.21	.22
Powdered, bbls	lb.	.22	.23
SAFFRON FLOWERS, American, bales	lb.	.24	.25
Valencia, 1 lb cans	lb.	11.00	11.25
Sage Dalmatian, bales	lb.	.05½	.06
Sandarac Gum, 300 lb bbls.	lb.	.33	.38
Sarsaparilla Root, Honduras, bales	lb.	.45	.46
Mexican, bales	lb.	.18	.20
Sassafras Bark, Ordinary, bales	lb.	.08	.10
Select, bales	lb.	.16	.18
Savory Leaves, bale	lb.	.06½	.07
Saw Palmetto Berries, bags	lb.	.07½	.08½
Scammony Resin, boxes	lb.	1.30	1.35
Root, bags	lb.	.08½	...
Senega Root, bags	lb.	.65	.70
SENNA ALEX., 150 lb cases	lb.	.25	.30
Half leaf 150 lb cases	lb.	.12½	.14½
Sifting, 400 lb bales	lb.	.11	.11½
Tinnevelly, Bold, 350 lb bales	lb.	.16	.18
Medium Leaf	lb.	.10	.11
Small Leaf	lb.	.07	.09
Pods, 350 lb	lb.	.24	.25
Powdered, 200 lb	lb.	...	.10
Serpentaria Root, bags	lb.	.40	.43
Simaruba Bark, bales	lb.	.25	.27
Skullcap Leaves, Eastern, bales	lb.	.40	.45
Western, bales	lb.	.20	.30
Skunk Cabbage, Striped, bales	lb.	.12	.14
Snake Root, Canada Natural, bags	lb.	.26	.27
Canada, Stripped, bags	lb.	...	.50
Soap Bark	lb.	.12	.13
Cut, 125-175 lb bags	lb.	.08½	.09
Crushed, 200 lb bbls.	lb.	.16	...
Powdered, bbls	lb.	.12	.13
Spearmint Leaves, American, bales	lb.	.25	.26
Spermaceti, blocks, cakes, cases	lb.	.32	.35
Spikenard Root, bags	lb.	.13	.13½
Squaw Vine, bales	lb.	.14	.15
Squills, White	lb.	.05	.06
Powdered, bulk	lb.	.23	.25
Stavesacre Seed, bags	lb.	.14	.15
Stillingia Root, bags	lb.	.08	.09
Stone Root, bags	lb.	.08	.09
St. Ignatius Beans, bags	lb.	...	Nom.
St. John's Bread, bags	lb.	...	.09
STRAMONIUM LEAVES, bales	lb.	.12	.14
Seed, bags	lb.	.07½	...
Strophanthus Seed, Kombe, bags	lb.	2.00	2.25
Styrax Liquid, Artificial	lb.	.26	.35
Genuine, USP	lb.	.38	.43
Sunflower Seed, bags Calif.	lb.	.04½	.05
South American, bags	lb.	.07	.07½
Tamarinds, bbls	lb.	.06	.07
Kegs	keg	3.85	...
Tansy, Herb, bales	lb.	.14	.15
Thus Gum, 280 lb bbls	lb.	.08	.17
THYME, Spanish, bales	lb.	.08	.08½
French, bales	lb.	.06½	.06½
Tonga Root, bundles	lb.	.25	.26
Bark, bundles	lb.	.25	.26
Tonka Beans, Angostura Cases		1.75	1.85
Para cases	lb.	.90	...
Surinam cases	lb.	1.00	1.10
Tragacanth Gum, No 1, 100 lb. cases	lb.	1.35	1.40
No. 2	lb.	1.25	1.30
No. 3	lb.	1.10	1.20
Powdered, 50 lb boxes	lb.	.80	.90
Turkish cases	lb.	.50	.90
Turmeric Root Madras, bags.	lb.	.06½	.07
Aleppy bags	lb.	.05½	.05½
Powdered	lb.	.13	.15
China bags	lb.	.11	.12
Turpentine Venice True, 80 lb cases	lb.	.32	.40
Artificial, 80 lb cases	lb.	.17	.18
Uva Ursi Leaves, bales	lb.	.05	.05½
Valerian Root, Belgium bags	lb	.12	.14
VANILLA BEANS, Mexican, whole, cases	lb.	4.00	4.50
Cuts, cases	lb.	2.50	2.65
Bourbon, cases	lb.	1.10	1.60
Vetivert Root, 100 lb bags.	lb.	.25	...
Violet Flowers, bags	lb.	1.00	1.05
Wahoo Bark of Root, bags.	lb.	.40	.43
Bark of Tree, bags	lb.	.20	.21
White Pine Bark, Roseed, bags	lb.	.06	.08
White Poplar Bark, bags	lb.	.06	.07½
Wild Cherry Bark, Natural thin, Green	lb.	.09	.10
Rossed bales	lb.	.11	.12
Thick Rossed, bales	lb.	.08	...
Wild Indigo Root, bags	lb.	.13	.14
Willow Bark, bags	lb.	.05	.05½
White, bags	lb.	.15	...
Witch Hazel Bark, bags	lb.	.05	.06
Leaves, bales	lb.	.07	.08
Wormseed, American, bags.	lb.	...	.08
Wormwood, Herb, Imp., bales	lb.	.08	.08½
Yellow Dock Root, bags	lb.	.08	.09
Yerba Mate, bags	lb.	.22	.25
Santa, bags	lb.	.09	.10½

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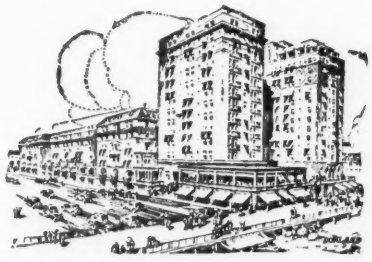

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(*Continued from page 583*)

precipitous action might not be expected at any time. In the event of such a break there will probably be an immediate attempt to market the huge surplus of mercury held by the monopoly with a wide open break in prices. Under such conditions, any market conclusions arrived at from any ordinary indications would be meaningless. The bottom of a such a market could not be forecast with any accuracy and buyers would have to take their own chances in such a market.

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Watching the A. P. M. A.

(*Continued from page 542*)

he said, would be along the paths of greater discoveries regarding vitamins, and also in more complete knowledge regarding the secretions of the glands of the human body.

A high point in the meeting was also reached during the report of the Sales Problems Committee. At this session A. E. Snyder, Abbott Laboratories, presented a paper which was read by S. DeWitt Clough. This paper outlined the fundamentals of distributing specialties through retail druggists. This was followed by a talk on a limited line of pharamceuticals by Elmer H. Hessler, of G. S. Stoddard & Company, which company manufactures only sixty or so products. While Mr. Hessler stated some advantages he also stated many disadvantages and stated that his company had recently added about twenty-five official preparations to sell along with the line. These official preparations are all dry in nature. They have absorbed a satisfactory proportion of the overhead of the company to make their addition to the line a satisfactory improvement.

J. W. Kurtz, Blue Line Chemical Company, talked in a most interesting manner on the development of new territories and salesmen. Dr. Frank B. Kirby, Abbott Laboratories, told of his company's use of effective income and other figures as a means of determining in advance just how much business should be available in a given territory. He told how his company always placed a salesman in a territory that was productive of business.

Harry C. Phibbs, Chicago, outlined the promotion of a pharmaceutical specialty from its inception to its complete marketing, indicating just what steps should be taken and how these steps should be taken to insure the maximum of success.

Advertising Control

(*Continued from page 540*)

tising, the Food and Drug Administration as to labels, and the Postoffice Department in enforcing the law against conducting fraud through use of the mails, by means of issuing fraud orders. In this last work, Dr. Norris of F. D. A. is assigned, full time, on a cooperative basis with the Postoffice Department. This takes no account of the work of the Department of Justice in "protecting the public" by enforcing the anti-trust laws to preserve competition.

Trade representatives express doubt that there is much public demand for further protection, especially in the direction of a specific law against alleged false advertising. It is believed there may be such a demand from a section of the drug trade. It is believed such a law may be given a boost following the Marmola decision. In the words of Mr. Robb, that decision "transferred to the halls of Congress the controversy as to the censorship of newspaper and other collateral advertising relating to the food and drugs act."

Uruguay and Paraguay

(*Continued from page 560*)

restricted to the wealthier classes, but there is a possible market for very cheap grades.

Face powders are about 30% of the imports, largely of French manufacture. American talcums are popular, and dental preparations are almost exclusively from this country

Paraguay offers a small, but growing market for American goods, but there is no necessity for a personal representative, and the trade can be easily handled through agents in Montevideo or Buenos Aires.

Packaging Exposition

(*Continued from page 575*)

and control plan of his company. Mr. Howard Otten, Merchandise Councillor of R. H. Macy & Co., Inc., hinted at this important consideration, when he spoke of the danger of overemphasizing package design at the expense of quality. After all, sales effort, advertising, and package design may get the first sale but quality of product draws the repeat sale. Hence, the work of the sales manager is likely to be abortive in the long run unless he insists that his company do adequate research to insure the quality of the merchandise he is trying to put across.

On the whole, the conference idea is fundamentally sound and will benefit the packaging industries immensely. The American Management Association is to be congratulated for its initiative and vision. We realize that the first of any such attempts must be inadequate. If the affair suffered at all it suffered from the attempt to do too much in too little time and too little space.

For Plant Managers

(*Continued from page 577*)

gravity of the foreign matter. For example, certain crude drugs, seeds particularly, contain foreign matter which it is desired to remove by screening or blowing, etc. If a little of the material is put into a test tube, mineral oil added and then shaken, the solid material will gradually settle according to specific gravity. Water may be used instead of oil, but is less desirable because so many products are soluble in it or are mucilaginous in nature.

What Do You Think of the Average Machinery Catalogue?

Our experience is that you can find out a lot from them excepting that which you want to know. Many of them are written from the point of view of the machinery salesman, who, as a general rule, has had no production experience. It seems that catalogues should be written from the viewpoint of those who use them. We need fewer superlatives and more technical facts—written however in a non-technical manner. This is important. Plant managers depend on equipment catalogues, advertising, and other literature to keep them up to date. Therefore, if you make your needs known equipment people will be happy to satisfy them. By way of symposium will you answer these questions: Do you keep catalogues or throw them out? Do you keep them on shelves or in a catalogue file? What do you think would be an ideal standard size? What information would you like to see in catalogues and how should it be presented?

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Index to Advertisers

Abbott Laboratories, No. Chicago, Ill. 608
Alsop Engineering Co., New York 570
Aluminum Seal Co., New Kensington, Pa. 530
American Potash & Chemical Corp., New York 612
Anchor Cap & Closure Corp., Long Island City, N. Y. 596
Armstrong Cork Co., Lancaster, Pa. 526
Art Tube Co., Irvington, N. J. 606

Bakelite Corp., New York ..... Insert facing 529
Benzol Products Co., Newark, N. J. 612
Bush & Co., Inc., W. J. New York 606

California Fruit Growers Exchange, Ontario, Cal. 584
Coignet Gelatines, New York 616
Colgate-Palmolive-Peet Co., Chicago, Ill. 616
Colton Co., Arthur, Detroit, Mich. 572
Consolidated Products Co., New York 622
Crown Cork & Seal Co., Baltimore, Md. 529

Dodge & Olcott Co., New York 523
Dow Chemical Co., Midland, Mich. ..... Cover 1
Dreyer Inc., P. R., New York 590, 616

Economic Machinery Co., Worcester, Mass. 568

Franco-American Chemical Works, New York 602
Fritzsche Brothers, Inc., New York 562

Givaudan-Delawanna, Inc., New York 564
Gutmann, Ferdinand & Co., Brooklyn, N. Y. 574

Hamilton, A. K., New York 602
Harshaw Chemical Co., Cleveland, O. 612
Heyden Chemical Corp., New York 580
Hoffmann-LaRoche, Inc., Nutley, N. J. 582
Hopkins & Co., J. L., New York 612
Huisking, Geo. P., New York 612
Huisking & Co., Chas. L., New York 606

Iliff-Bruff Chemical Co., Hoopeston, Ill. 594
Industrial Chemical Sales Co., Inc., New York .. Insert facing 592
Industrial Credit Ass'n., New York 527

Kiefer Machine Co., Karl, Cincinnati 572
Kimberly-Clark Corp., Neenah, Wisc. 586
Kimble Glass Co., Vineland, N. J. 598

Leonhard Wax Co., Inc., Theodor, Paterson, N. J. 610

Magnus, Mabee & Reynard, Inc., New York 525
Mallinckrodt Chemical Works, St. Louis 534
Merck & Co., Inc., Rahway, N. J. ..... Insert facing 593
Mixing Equipment Co., Inc., Rochester, N. Y. 574
Monsanto Chemical Works, St. Louis ..... Insert facing 569

New England Collapsible Tube Co., New York 533
Newport Chemical Works, Inc., Passaic, N. J. 600
N. Y. Quinine & Chemical Works, Brooklyn, N. Y. 578
Norwegian Cod Liver Oil Ass'n, Norway 616

Owens-Illinois Glass Co., Toledo, Ohio 531

Pacific Coast Borax Co., New York 614
Package Machinery Co., Springfield, Mass. 574
Parsons, M. W., New York 614
Penick & Co., S. B., New York 608
Pennsylvania Sugar Co., New York 602
Pfizer & Co., Chas., Inc., New York ..... Insert facing 568
Phoenix Hermetic Co., Chicago, Ill. 532
Plaimar, Ltd., Perth, Western Australia 584, 608
Powell & Co., Inc., John, New York 604

Schering Corp., New York 610
Schliemann Companies, Inc., New York 604
Stanco Distributors, Inc., New York 590
Stokes Machine Co., F. J., Philadelphia 566
Stokes & Smith Co., Philadelphia, Pa. ..... Insert facing 528
Sturge, John & E., Birmingham, England ..... Cover 2
Sun Tube Corp., Hillside, N. J. 521

Todd Co., A. M., Kalamazoo, Mich. 612

Ungerer & Co., New York 588
U. S. Industrial Alcohol Co., New York 576

van Ameringen-Haebler, Inc., New York ... Inserts bet. 568, 569

White Metal Mfg. Co., Hoboken, N. J. 528
Will & Baumer Candle Co., Inc., Syracuse, N. Y. 610
Wilson Laboratories, Chicago, Ill. 614
Wirz, Inc., A. H., Chester, Pa. ..... Cover 4

66

Drug Markets

June 1931

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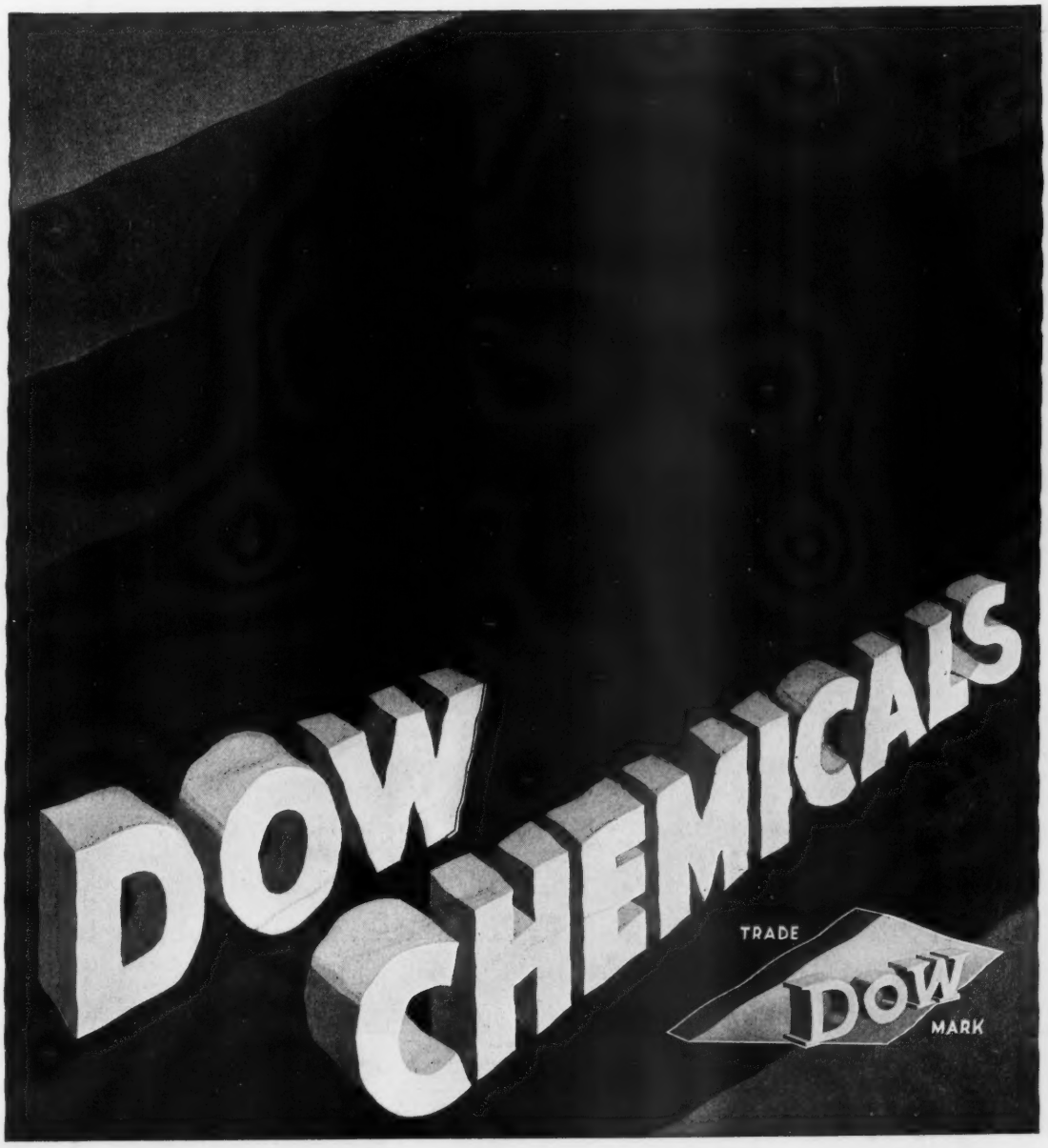

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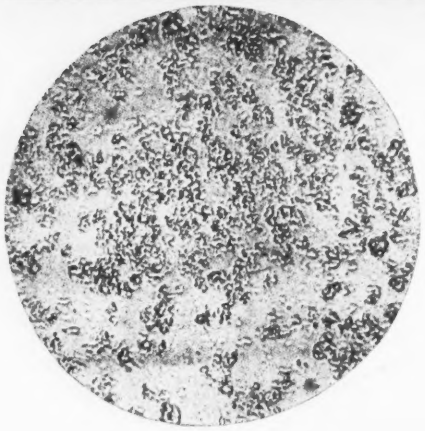

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Pfizer & Co., Inc., Chas.
Polak's Frutal Works, Inc.
Powell & Co., Inc., John
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Schwabacher & Co., S.
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Silver Import Co., George
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